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JANUARY 1988

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# MINNESOTA MEDICINE

JANUARY 1988

SPECIAL ISSUE

## Minnesota's Competitive Medicine

**Minnesota Medicine**
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**References: 1.** Feighner JP, *et al: Psychopharmacology 61*:217-225, Mar 22, 1979. **2.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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**Adverse Reactions:** Most frequently reported are those associated with either component alone drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely
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*Cardiovascular* Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke
*Psychiatric:* Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido
*Neurologic:* Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns
*Anticholinergic:* Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.
*Allergic:* Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.
*Hematologic:* Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.
*Gastrointestinal.* Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue
*Endocrine:* Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion
*Other:* Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.
**Overdosage:** Immediately hospitalize patient suspected of having taken an overdose Treatment is symptomatic and supportive I.V administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment
**Dosage:** Individualize according to symptom severity and patient response Reduce to smallest effective dosage when satisfactory response is obtained Larger portion of daily dose may be taken at bedtime Single *h.s* dose may suffice for some patients. Lower dosages are recommended for the elderly Limbitrol DS (double strength) Tablets, initial dosage of three or four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required Limbitrol Tablets, initial dosage of three or four tablets daily in divided doses, for patients who do not tolerate higher doses
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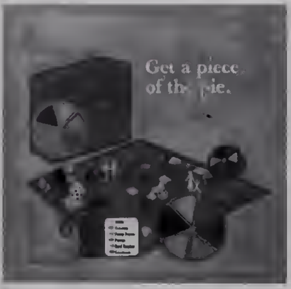
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## Cover Illustration

**A Piece of the Pie** This cover illustration, done in pastels by Kathleen Berntson, uses the well-known images of a popular board game to capture the feeling of intense competition found in today's medical marketplace.

Kathleen Berntson, who lives in St. Paul, is on the staff of the Minnesota Coalition for a Smoke-Free Society 2000 and is a freelance artist and illustrator.

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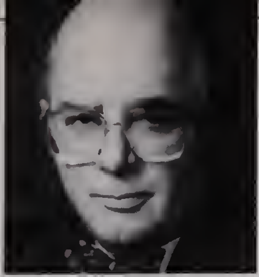

RICHARD L. REECE, M.D.

# The New Minnesota Medicine

Last summer the Board of Trustees of the Minnesota Medical Association asked me to change *Minnesota Medicine* from a traditional clinical journal to a health affairs journal — a publication mirroring more closely the economic revolution that besieges us all.

With the help of an advisory committee composed of Alvin Schultz, M.D.; Andrew Smith, M.D.; Steven Carter, MMA CEO; and Meredith McNab, managing editor, I've been struggling with how to best execute this change.

I think this first issue, which examines Minnesota's version of competitive medicine, was worth the struggle.

It showcases a new format that allows us to offer a blend of social and scientific commentary in a "journal of clinical and health affairs."

## What's the Blend?

■ In each issue, we shall have two interviews. You have received these interviews well in the past. Many of you have told us you like to hear from leaders whose thinking may directly affect your practice. In this issue, I interview Sen. David Durenberger, the senior senator from Minnesota, and Nazie Eftekhari, president of Family Health Plan, a fast-growing Twin Cities PPO.

■ We shall feature articles from the Minnesota Medical Association. This month we publish the results of a survey by the MMA Ad Hoc Committee on Competition. The survey tells how Minnesota physicians are reacting to competitive pressures.

■ From time to time, we shall feature an article by a freelance writer. This month Sara Saetre writes us a fine piece on how the University of Minnesota Hospital has carved its niche in the competitive Twin Cities health care marketplace.

■ We will also talk about medicine and law. In this issue, Attorney Margo Struthers writes about the prospects for physician success in entering the collective bargaining process, which, according to the MMA competition survey, is an option most physicians favor.

■ We shall have a "perspectives" section that will offer views from various angles of the health care playing field. In this issue, Vic Ellison, vice president for public affairs at the Council of Hospital Corporations, informs us why the current wave of mergers and closures of Twin Cities hospitals may be a good thing. Also, Odin Anderson, a professor of sociology from the universities of Chicago and Wisconsin and a student of the Twin Cities' HMO development, gives a candid "outsider" view of IPAs in the Twin Cities market.

■ In a new feature called "On the Business Side," we'll have expert reviews, analyses, tips, and commentary on tax laws, Medicare regulations, practice options, computer systems, joint ventures, records management, and other issues that fall on the business side of medicine. This time, Steve Carter reviews changes accompanying the new tax law.

■ We shall continue to feature clinical articles, but most likely in a new format. We don't have any in this issue, but we have a number slated for upcoming issues. For now, we shall solicit these articles. If you have something to submit, think about condensing your material into a letter to the editor — a section we hope to fill with scientific commentary and lively debate.

■ Frequently, we shall strive to cluster each month's articles around a broad theme. This month we're concentrating on competition. Next month, we'll have a go at high technology medicine and how it's practiced in Minnesota.

## The New Minnesota Medicine

This is your first issue of the "new" Minnesota Medicine. Note the new cover (we'll most often feature our traditional physician cover photographs), the new interior design, and the new contents. As you read what's within, respond to what you like and to what you dislike by writing letters to the editor or by talking to your Minnesota Medical Association representatives. This is your journal, and it ought to be precisely what you want.

# Rugged Terrain and Rough Waters: A Senator's View of Health Care

MM *Senator Durenberger, what are the central health care issues in Washington?*

DURENBERGER The central health care issue is one that concerns all public policy in Washington today — the deficit. And it has two sides.

First, in a fiscal sense, we can't make good Medicare, Medicaid, or other health policy in this country under the pressure of a $2.5 trillion debt and a $150 billion a year deficit with everyone screaming about cutting spending rather than touching taxes. We need to spend money to make money in health policy reform.

As long as leaders of this country are sitting around figuring out how to take money out of doctors' and hospitals' pockets to balance the budget, we aren't going to be able to make intelligent health policy.

Second, we have a values problem. That is the difference between people's willingness to live within their means and their willingness to take responsibility for their actions. If everyone would learn to live within his means and take responsibility for his actions, we could substantially reduce sick care costs in America. We must understand the relationships between smoking and artificial hearts, and not wearing seat belts and high-cost fracture repairs.

MM *Aren't the hospitals and the physicians particularly vulnerable under this huge deficit? As far as I can see, both parties agree Medicare should be cut.*

DURENBERGER As long as cost disparities exist between hospitals and physicians in Dade County, Florida, and Chippewa County, Minnesota, by a ratio of 3 to 1, or between ophthalmic procedures in one part of the country and ophthalmic procedures in another part of the country by a ratio of 2½ to 1, the government will cut money to hospitals and doctors to reduce spending and reduce the deficit.

MM *I hear these regional variations produce among congressmen a phenonomen known as "information indignation."*

*Will Congress move to smooth out these variations?*

DURENBERGER We reduced variations between inpatient and outpatient procedures when we discovered the same procedure could be done for half as much in an outpatient setting. Congress created reimbursement policies that provide incentives for outpatient surgery.

**SEN. DAVE DURENBERGER**

**Durenberger** *continued on page 49*

*Sen. Dave Durenberger, is, as most of you know, a staunch advocate of the pro-competitive, pro-choice approach to health care reform. Indeed, in this interview, he told me he thinks of this approach as a national health insurance program. I had not thought of competition reform as a national health insurance program, perhaps because I didn't want to.*

*Although he champions the Ellwood scenario of competitive reform, he is concerned about its ragged edges — about the patients who "fall through the cracks" in a competitive world, about the "messy endings" and casualties among conservative physicians and hospitals. He realizes many of us who have practiced a conservative brand of medicine are now being punished for our past prudence. Two good examples of this punishment are rural hospitals, which receive lower DRG payments than their city cousins, and rural senior HMO patients, who are being dropped because rural physicians charged them modest rates in the past. HMO payments are based on those historic fee-for-service rates. It has dawned on Sen. Durenberger that "good guys" among providers are taking a financial beating for the wrong reasons.*

*But he is convinced things are taking a turn for the better. He believes the disparate rates paid to urban and rural regions will be evened out. And he believes the Senate's bill on catastrophic illness may be a model for future social legislation.*

# Family Health Plan: A New Game in Town

M. NAZIE EFTEKHARI

MM *Ms. Eftekhari, you're president of the Family Health Plan in Bloomington. Lately your firm has startled the local health care world by winning major accounts with Northwest Airlines, Dayton's, and, most recently, Hennepin County employees. In the Hennepin County bid, you were competing against PHP and MedCenters. Your plan now has 68,000 members.*

*Minnesota Medicine readers are interested in how and why your plan grew so quickly. Could I start by asking you about your educational background, how you came to this country, and what your Minnesota connection is?*

EFTEKHARI I did my undergraduate work at the Norman School of Economics, which is part of the University of London. There I received a degree in economics. I subsequently completed a graduate program in international relations at the University of Southern California at the European Campus in London. A former Minnesota alumni, Dr. Araam, who was Secretary of Health and Welfare in Iran, then offered me the opportunity to attend the program of hospital and health care administration at the University of Minnesota.

MM *Dr. Araam was a graduate of the Minnesota program?*

EFTEKHARI Yes, he's an oral surgeon who went through the program on hospital and health care administration.

I arrived here in September of 1978, two weeks after martial law had been declared in Iran. In January 1978, the Shaw left Iran, and in February 1979 Khomeini came back, and my family fell out of favor. The rest is history.

I completed the program and did a residency with the Fairview system under Carl Platou. I will eternally be grateful for his mentorship and his confidence in an Iranian woman.

I met Steve Gregg, who was the administrator of Fairview Downtown. Steve had the idea of forming a PPO. Family Health Plan is Gregg's brainchild. The idea was to recruit people with a high level of commitment to the service side of medicine and to organize them in a fashion to effectively deliver products to the marketplace. To do that, we brought together the best features of HMOs. Those features were the best features of traditional indemnity plans. We combined them into Family Health Plan.

MM *What differentiates you from an HMO?*

EFTEKHARI A number of key elements differentiate us from HMOs. Number one, from the employee perspective, we have offered since our inception a dual benefit design where members, if they use our

*In the last year, Family Health Plan, a small PPO of which Nazie Eftekhari is president, has won major accounts from Northwest Airlines, Dayton's, and now Hennepin County employees. With the Hennepin County contract, Family Health Plan will have 82,000 subscribers. But can this plan live up to its obligations? Does it have the systems in place to deliver the level of services it has promised? Only time and experience will tell, but Nazie Eftekhari answers such questions with a resounding confidence.*

*She attributes the plan's success to a number of factors. Among them: FHP allows purchasers to regain some control; FHP doesn't contain costs at its physicians' or hospitals' expense; FHP has developed a tight utilization review program; and it offers consumers a level of choice never available before. Plus, she claims, discounts flow directly to the payer, not to a middleman.*

*You will have to judge for yourself whether Ms. Eftekhari's ideas sound reasonable in this interview. She has innovative ideas about health care systems and refreshing attitudes toward doctors, hospitals, patients, and purchasers, and she expresses these ideas and attitudes well. She and her organization have earned the right to be heard.*

***RLR***

doctors and hospitals, get better benefits. If they go to non-Family Health Plan doctors and hospitals, they have to meet a deductible and co-insurance. Employees are not a financial captive of the plan. They maintain the prerogative to opt out when, and if, they choose to do so. From a consumer perspective, we are a flexible combination plan.

From a physician-provider perspective, the main difference is we don't put our physicians at risk. There is no capitation involved. We have been, and continue to be, opponents of capitation systems. Basically, we pay the physician a professional fee for services rendered and don't get into capitated system intricacies such as putting physicians at risk or withholding, or any of those features.

From an employer perspective, what is unique about our plan, particularly as compared with HMOs, is that we can work in a self-funded environment. In a traditional HMO environment, you pay a premium as an employer, you pay a premium for your employees to the plan, and at the end of the year you have no accountability.

We have 100 percent accountability. In our environment, employers get a detailed report of the discounts extended by our doctors and hospitals. Those discounts flow directly to the payer. Those discounts don't go to a middleman.

The employer has substantial say in what the benefit designs will be because that benefit design drives what the cost will be. Employers get detailed reports on utilization of services. They pay for those services that their people use, no more, no less. If they have a high-using population, they'll pay a lot more. If they have a low-using population, they'll pay less. It's a level of accountability that was nonexistent in this industry.

MM *So employers are mostly self-funded?*

**EFTEKHARI** Yes. They get accountability for the dollars they pay.

MM *Would it be fair to say you're a broker between purchasers and physicians?*

**EFTEKHARI** Yes. I think it would be. Sometimes the word "broker" has negative connotations. We are reluctant to use the word broker because there are insurance brokers out there. We don't want to be confused with them. But we negotiate relationships between payers and providers, and we are therefore "brokers," in the best sense of the word.

MM *How do you differ from the large PPOs in the Twin Cities, such as Select Care and Preferred One?*

**EFTEKHARI** The pivotal difference between Family Health Plan and those two organizations is that we aren't provider owned and controlled.

MM *Hospitals own those two plans?*

**EFTEKHARI** Hospitals, and in the case of Preferred One, limited physician ownership exists as well. But they're primarily hospital owned. Certainly the majority in Select Care is absolutely hospital owned, and in Preferred One, hospitals own most shares.

MM *Who owns Family Health Plan?*

**EFTEKHARI** It's owned by staff and a board of directors. Essentially, ownership lies with directors and the staff, the people who have the most incentive to make it work.

MM *Who is on the board?*

**EFTEKHARI** We have a small board composed of 12 individuals. I'm a member of the Board, as is Steve Gregg, its chairman. We have three physicians, not as representatives of the medical community, but as individuals who bring the wisdom from their own backgrounds. We have a couple of hospital administrators; again, they don't come representing any constituency. They're invited to sit on the board for the counsel they can bring. We have an attorney, and we have an individual experienced with third-party administration and market delivery systems. And our medical director.

MM *I understand that the commission for your plan's services is 3 to 3½ percent. This is much lower than competing plans. How can you afford to charge that low a commission?*

**EFTEKHARI** First, we don't try to replicate the work already being done by independent agents and brokers or by the employers. Second, we came into the market cognizant that we're an add-on overhead to the system. We had to offer a commission justifiable in terms of savings we produce. For example, if you're an employer paying 15 percent administrative fees to save 18 percent on your health plan costs, what's the merit of that? Very little. So that's why we targeted the 3 to 3½ percent level as something that we could justify in light of the savings we produce.

We operate a lean organization. It's not a bureaucratic environment. We do little advertising. We don't have the elaborate cost structures you see around the insurance companies and health maintenance organizations. By management edict, we've avoided them thus far. We intend to avoid them in the future.

MM *What about computer systems and claims processing?*

**EFTEKHARI** Most claims processing is being done by our partners. In the case of Hennepin, Lincoln National does the claims processing. This again brings us back to the point that we're not replicating what's already being done in the system. There are enough costs already.

We pay claims on about 10 of our 500 accounts. The only reason we got into the claims processing business was that in 1982 when we came out of the shute, no one would pay our claims. Basically, our competitors took the position that if they didn't pay our claims, we'd go away. We were not going to be held hostage to that kind of anti-competitive gesture. So we got into the claims business. We try hard to deliver an effective and qualitative product.

In terms of computer systems, the technology has advanced so much that we're not looking at the cost structures that historically were there. Nowadays, with a minicomputer and a reasonable software package enhanced with decent programming talent, you can do a lot without enormous overhead. That's what we do.

Don't get me wrong. We have an elaborate computer system, with a sophisticated software package that we spent two years enhancing. But it's a fluid situation. Computer systems change rapidly from one generation to the next. We try to minimize our cost commitment.

MM *Skeptics are saying: How can Family Health Plan sustain their services with 3 to 3½ percent commission? Do they have the network of physicians to provide these services? Many are even predicting you'll go away in two or three years because you won't be capable of performing. Any comment?*

EFTEKHARI Sure. Four or five years ago, the skeptics said this product would never take off. Two, three years ago the skeptics said HMOs would shut us down. Today, they question our ability to deliver those services. The fact is, Family Health Plan's track record tells you otherwise. We have grown rapidly over the last few years, and we've met the needs of our clients and the consumer.

Is our network large enough? Certainly. At this point we're looking at a network of more than 1,000 physicians and 13 hospitals. By January 1, we'll be serving 80,000 to 90,000 members. By any criteria you apply, that network will be adequate to take care of the needs of those members. Also remember those members can opt out to non-member providers. So in essence, there's another 5,000 to 6,000 physicians to meet customer needs.

MM *Why is the idea of Family Health Plan so hot? Is it because the purchasers retain some control?*

EFTEKHARI You've hit the nail on the head. There are a number of reasons why the idea is hot right now. Some of them appear obvious now, but these are things that Steve Gregg was talking about five years ago.

Number one, we're not punitive toward our providers. We don't contain costs at our physicians' or our hospitals' expense. We believe discounts should be offered to our buyers because they're directing volume to their doctors and those hospitals. That's the reason for discounts, not just because we expect doctors and hospitals to be discounting their services.

We have developed a tight utilization review program with our value assurance program. Physicians developed it, and today it works because physicians are committed to it.

We track all aspects of utilization in the system. We can't do this in a confrontational and hostile manner with providers. Rather, we describe the economic consequences of different practice styles to our physicians. We see if we can arrive at an optimum way of

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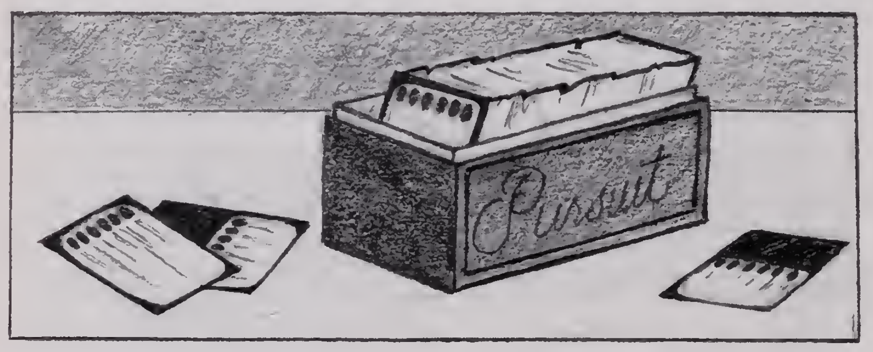


MM *How do you control consumer demand?*

**EFTEKHARI** At the consumer level we are strong advocates of co-insurance, deductibles, and copayments.

MM *What's the magnitude of these instruments of restraint?*

**EFTEKHARI** This year we're advancing a $10 copay, and at least 10% co-insurance level with a deductible in the range of $100 to $300. We do this to create an economic decision in the mind of the consumer.

It's unreasonable to ask a physician to control office visit utilization, lab, and X-ray, if you're telling consumers everything is covered at 100%. There are adequate studies to demonstrate that for every dollar of copayment or co-insurance you directly inhibit utilization.

Physicians cannot deny services to a patient who walks into their office who has seen a billboard proclaiming "You're covered for everything." They can't say: "You're a hypochondriac, go home and take two aspirins," or "You didn't need to come in for this service."

We want to have a benefit design that encourages consumers to do the right thing. We want to have a relationship with our physicians in which we can talk intelligently. We want to have a selected group of physicians and hospitals that allows us to deliver concrete benefits to individual patients.

MM *And have you "intelligently" selected these physicians and hospitals?*

**EFTEKHARI** In the selection process, we focused on hospitals. Steve Gregg is a hospital administrator by training, as I am. We understood one thing very well: 50 percent of premium costs are associated with hospital care. So, we focused on cost-effective hospitals. We looked at productivity indicators, we looked at bed structure, we looked at the mission of the organization, and we looked at the caliber of the management. Once we picked our hospitals we went to the primary care physicians at those hospitals.

MM *What are those hospitals?*

**EFTEKHARI** Waconia, Ridgeview, Fairview Ridges; Midway Hospital, St. Joseph's Hospital, St. John's Northeast, and Children's Hospital in St. Paul; Children's Medical Center in Minneapolis, Hennepin County Medical Center, and Mercy and Unity Hospitals in the northern part of the metropolitan area.

MM *You mentioned Hennepin County Medical Center. The contract you recently won with the Hennepin County employees had a lot of newspaper coverage. Why did you win the bid over PHP, and why were you able to offer a lower bid than PHP?*

**EFTEKHARI** We offered a lower bid than Physicians Health Plan because we had a better product. We manage utilization more effectively, and we have a smaller and more cost-effective network of physicians and hospitals. We came in with lower costs because we have a better-designed program that focuses on the right issues. Everybody says HMOs have good utilization review programs. I respectfully challenge that observation. They shift the risk to physicians. We don't do that. Utilization review is the business of the health plan, and we don't choose simple solutions to complicated situations, such as a 20 percent withholding.

Why did we win or prevail over Physicians Health Plan in this instance? We did so first because we have a better product, second because our client understood the connection between smaller networks and accountability. Third, we worked hard. We took the contract seriously; we went after it; we stayed on top of it. Those are the reasons.

MM *Physician confidence and consensus are important in running any health plan. How do you maintain that confidence and build that consensus?*

**EFTEKHARI** We have a value assurance committee composed of physicians, clinic administrators, and hospital administrators. This committee convenes periodically to advise staff and the board of directors on policy matters pertaining to utilization review. We have a utilization review committee composed of physicians that convenes periodically to look at implementation policies to see how effective they are. We have an extensive network of physician reviewers who advise us on all aspects of the operation. And, we have a clinic administrators committee that meets to ensure that we are not burdening the clinics administratively.

So a formal structure exists. There is a corporate philosophy. We are in partnership with the providers, physicians, hospitals, and clients. Dayton Hudson is our client, and the consumer is our client. We treat those client relationships with the deference they are due. We will not do things at the client's expense.

We don't subordinate our physicians' interests to the interests of the hospitals or to the interests of the employers, and vice versa. We try to be honest brokers.

**MM** *Let's talk about physician payment. You put physicians' discounts on the table. You say you don't take a punitive approach. Who takes the risk?*

**EFTEKHARI** The risk remains with the employer in the case of the self-funded employer or the insurance company in the case of the insured plan.

**MM** *Rather than using the word "risk," let's use the word "responsibility." In your plan, the responsibility lies with the buyer who is self-funded and through copayments and deductibles.*

**EFTEKHARI** Absolutely, not that we are absolving the providers of responsibility, but we are sharing that responsibility.

What we're saying is utilization is not the sole responsibility of the physician. Hospital cost structures impact the cost of a health plan. Administrative cost structures impact the premium level. Consumer behavior impacts cost, and employer benefit designs influence cost. We're sharing that responsibility amongst all the players rather than holding up one player as the only responsible party.

**MM** *So you're creating a partnership between the physicians, the hospitals, and the buyers.*

*After listening to your remarks, this thought emerges: Other plans, HMOs included, have made a strategic error. They've tried to control cost by controlling physicians.*

**EFTEKHARI** Our program is based on the idea, first of all, that there are many elements that make up "cost" and one of these is the physician. Rather than taking a negative approach and manipulating this important player in the health care arena, why not sit down and talk to the physician?

Physicians were, after all, at the top of their class throughout school and college. They are competitive individuals. They are small businessmen, running efficient little cottage industries called fee-for-service medicine.

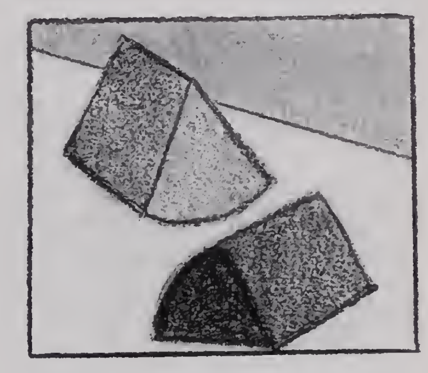
In fee-for-service medicine, you have 3.6 non-physicians for every doctor. In an HMO structure you have 6.5. So doctors are running an efficient system. What we want to do is sit down and talk to physicians. We want to explain to them the actuarial economic implications of the different styles of medical practice. We find them to be responsive; they absorb complicated, complex variables, they understand they can change behavior patterns very quickly once they understand them.

**MM** *Are you saying productivity of physicians more than compensates for the inefficiencies of fee-for-service medicine?*

**EFTEKHARI** Yes.

**MM** *What about other elements? We've mentioned fee schedules and productivity. What about hospital stay?*

**EFTEKHARI** Hospital stay is probably the key criteria. Fifty percent of the premium goes to compensate for hospital care. That makes all the difference. I'll give you an example. In the first year that Family Health Plan was in business we had 2,000 members in the plan. Because we were offered to an employed population, high female, we had a high maternity rate. In that year, the difference between a three-day length of stay for normal maternity and a two-day length of stay for normal maternity for Family Health Plan clients was $50,000.



Who got that $50,000? The hospitals did, not the physician, because the physician charges the same amount for normal maternity whether the patient is in the hospital three days or two days.

If the patient is in the hospital for three days, the physician has to deliver more services and, therefore, is actually getting paid less. To attribute all utilization issues to physician greed is over simplifying. This complicated system has a life of its own. The various elements ought to be explained to the physician. It's not that the elements are so elusive or so complicated, but that the physician, a good one, is reading his *New England Journal of Medicine*. He's not sitting there delving into these issues.

But, if you bring this information to physicians in an appropriate form and have an intelligent discussion about it, you will find them to be extremely responsive. To blame physicians for costs borders on the ridiculous. To call a physician in the dead of night before a committee of his peers, wrap his knuckles because he wasn't a good boy, and withhold 30 percent of his fees, that's Neanderthal. There should be a more sophisticated approach to the medical practitioner.

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# LETTERS TO THE EDITOR

## ER Use by Welfare Patients

It is easy to understand why the authors had a difficult time finding a publisher for their article, "Emergency Room Use and Abuse" (*Minnesota Medicine*, October 1987), since, in fact, it truly added no insight to the problem of providing care to the welfare patient and also obviously showed no understanding of the social pressures that this segment of our population has to deal with. The data is old (1982) and of little use in today's environment since long-range planning is generally accepted to be 2-3 years rather than 5-10.

The fact is that emergency rooms in the Twin Cities provide a service for these patients that is basically unavailable to them in other settings. Clearly, many of these patients are forced to come to emergency rooms because they are refused in some practitioners' offices. Many of these patients choose to come to emergency departments where they can be cared for without being questioned about their resources and where they are not expected to produce money in order to receive services. Emergency physicians are constantly trying to alter patients' behavior relative to repetitive, nonemergent visits.

The evolving specialty of emergency medicine is based on providing critical care for patients with or without resources and providing universal access to patients in need. It is the only specialty that with little or no support from the local community or government is mandated to take care of patients as they walk in the door.

For this study to describe small lacerations, hyperventilation, and mild joint sprains as marginally appropriate visits shows the authors' lack of understanding of the purposes of triage and the ability of these individuals to make these educated decisions for themselves. To decide what hyperventilation should go to the ER and what should not is not an easy thing to do.

The American College of Emergency Physicians has defined emergencies from the viewpoint of the patient, and not by diagnosis. If the patient perceives the problem to be an emergency, for example, chest pain, it must be considered and treated as an emergency in the hospital ER setting, regardless of the fact that the final diagnosis turns out to be costochrondritis. To do less than that is unfair to the patients in these communities and increases the liability of the hospital and the emergency physician.

Unfortunately, the result of articles such as this will be to further decrease the amount of money paid for the support of emergency medicine in this area with the mistaken idea that that will alter the behavior patterns of this group of patients. That has proven to be untrue in more than one setting since 1982, when these data were collected.

*James J. Cicero, M.D.*
*President, Minnesota Chapter*
*American College of Emergency Physicians*
*Chief, Emergency Medicine*
*St. Paul-Ramsey Medical Center*

## A Reply

Certainly, the article was published well after the study was done. It was refused by JAMA in 1984 but accepted for publication in early 1985 by *Minnesota Medicine*. Due to restructuring on *Minnesota Medicine's* part, it took quite some time to be published.

I agree that the emergency rooms in the Twin Cities are a vital part of our health care system. They provide excellent medical resources for patients of all backgrounds. However, I would argue that much of this care is also available in office settings. While some physicians may occasionally refuse patients for various reasons, I would argue that most physicians in the Twin Cities area provide excellent care. Many provide free and reduced-cost care to patients in need. Most clinics have 24-hour emergency phone numbers through which many patients are helped at no charge. Likewise, patient behavior may be directed through this method.

It was difficult to define the limits of appropriate ER visits for the purposes of our study. However, these definitions were equally applied to all patients regardless of their insurance. Actually, there is quite a bit of misuse of the emergency room, regardless of insurance, but certainly the welfare population is, statistically, significantly different from those who fall under the other insurance mechanisms studied. I agree that if a patient perceives a problem to be an emergency, certainly that person should be seen by or should speak with a physician, regardless of the time of day.

Finally, I was encouraged with your statement that emergency physicians are constantly trying to reduce patients' repetitive non-emergency visits. I think follow-up through primary care physicians will reduce unnecessary visits. Many private hospitals in the Twin Cities area will call private doctors offices during daytime hours prior to seeing a patient. Many times the patients will be sent to the private office, which is certainly more cost effective. After-hours, private hospital emergency rooms routinely contact physicians when their patients use emergency rooms. This also ensures better follow-up in patient care. Unfortunately, at St. Paul-Ramsey Medical Center, follow-up phone calls to private physicians are not performed. I would suggest this be done with physician groups who are interested in information regarding their patients.

I would also suggest daytime emergency room visits be triaged through the Ramsey clinics to provide the patients access to a primary care physician who would monitor their ongoing medical care, and ideally, prevent unnecessary emergency room visits.

*John Dickhudt, M.D.*
*MinnHealth, P.A.*
*2716 Upper Afton Road*
*St. Paul, MN*

## Credit's Due

Judy Knapp, M.P.H., of the University of Minnesota Department of Medicine, should have been identified as the author of the special report, "Action Plan to Encourage Union Support for a Smoke-free Hospital" (*Minnesota Medicine*, November 1987). The editors regret the omission.

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BRIEF SUMMARY

**CONTRAINDICATIONS**
There are no known contraindications to the use of sucralfate.

**PRECAUTIONS**
Duodenal ulcer is a chronic, recurrent disease. While short-term treatment with sucralfate can result in complete healing of the ulcer, a successful course of treatment with sucralfate should not be expected to alter the post-healing frequency or severity of duodenal ulceration.

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**Carcinogenesis, Mutagenesis, Impairment of Fertility:** No evidence of drug-related tumorigenicity was found in chronic oral toxicity studies of 24 months' duration conducted in mice and rats at doses up to 1 gm/kg (12 times the human dose). A reproduction study in rats at doses up to 38 times the human dose did not reveal any indication of fertility impairment. Mutagenicity studies have not been conducted.

**Pregnancy:** Pregnancy Category B. Teratogenicity studies have been performed in mice, rats, and rabbits at doses up to 50 times the human dose and have revealed no evidence of harm to the fetus due to sucralfate. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

**Nursing Mothers:** It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when sucralfate is administered to a nursing woman.

**Pediatric Use:** Safety and effectiveness in children have not been established.

**ADVERSE REACTIONS**
Adverse reactions to sucralfate in clinical trials were minor and only rarely led to discontinuation of the drug. In studies involving over 2,500 patients, adverse effects were reported in 121 (4.7%). Constipation was the most frequent complaint (2.2%). Other adverse effects, reported in no more than one of every 350 patients, were diarrhea, nausea, gastric discomfort, indigestion, dry mouth, rash, pruritus, back pain, dizziness, sleepiness, and vertigo.

**DOSAGE AND ADMINISTRATION**
The recommended adult oral dosage for duodenal ulcer is 1 gm four times a day on an empty stomach.

Antacids may be prescribed as needed for relief of pain but should not be taken within one-half hour before or after sucralfate.

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**HOW SUPPLIED**
CARAFATE (sucralfate) 1-gm pink tablets are supplied in bottles of 100 and in Unit Dose Identification Paks of 100. The tablets are embossed with MARION/1712. Issued 3/84

**References:**
1. Grossman MI: *Scand J Gastroenterol* 58 (suppl 15):7-16, 1980.
2. Marks IN, in Hellemans J, Vantrappen G (eds): *Gastrointestinal Tract Disorders in the Elderly.* Edinburgh, Churchill Livingstone, 70-81, 1984.
3. Krentz K, Jablonowski H, in Hellemans J, Vantrappen G (eds): *Gastrointestinal Tract Disorders in the Elderly.* Edinburgh, Churchill Livingstone, 62-69, 1984.

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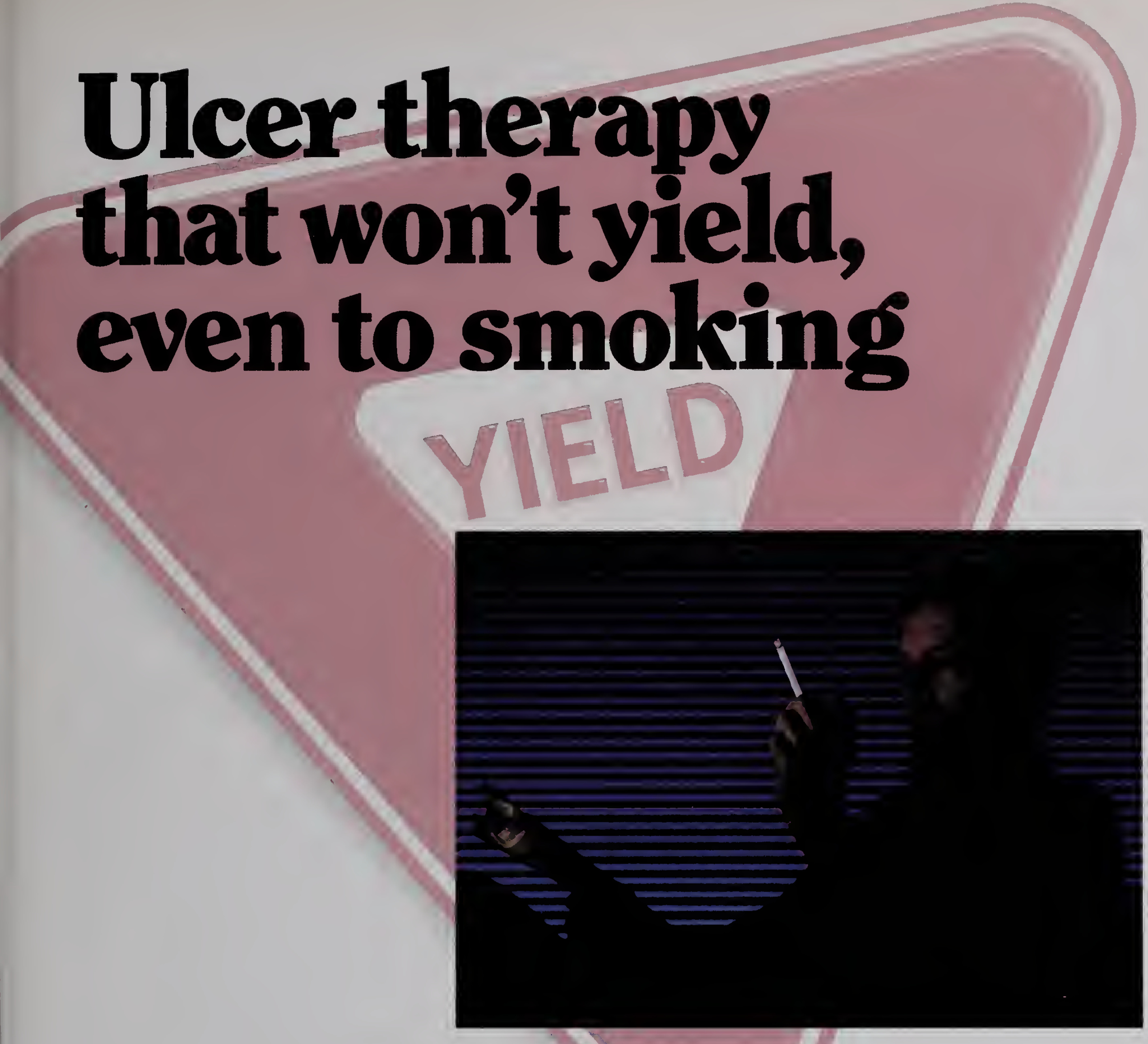

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| | |
|---|---|
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| **Cimetidine:** | |
| All patients | 76.3% |
| Smokers | 62.5% |

*Significantly greater than cimetidine smoker group ($P<.05$).

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# The Evolution of Twin Cities Hospitals

*Vic Ellison*

The recent spate of hospital closures, mergers, and affiliations has created a Twin Cities hospital-delivery system far different from what existed five years ago.

To the casual observer, the events may appear threatening. Several acute-care hospitals that have served Minneapolis and St. Paul neighborhoods for decades have either closed their doors or been converted into specialized treatment facilities. The time has passed when each section of the two cities has its own hospital, complete with maternity ward and emergency room.

But the resulting changes need not be feared. In fact, once understood, they should be embraced.

For many years, every hospital tried to offer every service. The current competitive health care market has resulted in hospitals having to make choices. Few hospitals can be all things to all people. Instead, hospitals have begun developing "centers of excellence," in which they seek out their niche in the local market. By leaving some services to others, they have been able to capitalize on what they do best. And that means more value for Twin Cities residents' health care dollars.

Specialization is just one way hospitals are trying to improve quality and deliver more bang for patients' health care bucks. Another is better utilization of existing space.

Hospital inpatient occupancy rates have been declining steadily since 1980. Utilizing that unused space in other ways is important to cost-conscious health care providers. And outpatient treatment is perhaps the best example.

**The current shakeout in the local hospital industry has by-and-large ended, and a period of calm is about to descend.**

As little as three years ago, cataract surgery required a three-day hospital stay. Today, that procedure can be completed on an outpatient basis, the operation and hospital stay taking only a few hours, while rest and recovery take place at home. Fewer and less costly procedures mean smaller claims to insurance companies, and that helps keep premiums down.

Much outpatient surgery in the Twin Cities is taking place in hospital wings that previously had been used for inpatient treatment. It is that new and better use of existing facilities that makes the occupancy rates for licensed hospital beds irrelevant in today's hospital-delivery system.

The most recent price report by the Council of Hospital Corporations showed Twin Cities hospital prices rose 6 percent in the past 12 months, close to the 4.7 percent and 5.3 percent increases the previous two years. Clearly, competition is forcing local hospitals to control costs at the same time they are developing their "centers of excellence."

The emergence and reconfiguration of several multihospital corporations has hastened this type of specialization during the last year.

- Last fall, five hospitals on the St. Paul side of the river (Bethesda, Midway, St. John's Eastside, Mounds Park, and St. John's Northeast) merged as HealthEast. Later, St. Joseph's and Divine Redeemer joined HealthEast.
- In March, the Health Central and HealthOne corporations merged into the "new" HealthOne, consisting of Mercy, Unity, United, St. Paul Children's, and Metropolitan Medical Center. Recently, Mt. Sinai announced it is considering joining HealthOne.
- In June, Fairview's Riverside and Deaconess hospitals merged with Carondelet's St. Mary's Hospital, creating Riverside Medical Center.
- And in July, the LifeSpan Health Care Corporation (parent company of Abbott Northwestern Hospital, Minneapolis Children's Medical Center, and Gillette Children's Hospital) reached agreement on a working relationship with Methodist Hospital.

The current shakeout in the local hospital industry has by-and-large ended, and a period of calm is about to descend, allowing the new organizations to test strengths and weaknesses.

The sifting process began this summer, as HealthEast announced it would close both Mounds Park and St. John's Eastside by the end of the year. They weren't the first hospitals to close, and they won't be the last (Samaritan already has

**Hospitals** *continued on page 21*

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*This article appeared as a letter in the September 25, 1987, Twin Cities *Star Tribune*.

# The Fragmentation of the Medical Profession

*Odin W. Anderson, Ph.D.*

Once upon a time the medical profession took for granted the concept that the prerogatives of a profession combined the right to diagnose and treat according to professional norms and customs and the right to determine its own methods, amounts, and sources of payment. Its model was the individual practitioner who was paid on a fee-for-service basis, who set fees, and who charged what was thought appropriate from private patients. Third-party payment was indirect and through the patient, should the patient have some insurance.

This model survived up to the early 70s when this country experienced unparalleled economic prosperity. The Blue Cross/Blue Shield plans and the private insurance companies, which eventually covered about 75 percent of the population by 1970, paid what the providers charged. The economy was so strong and the public policy of increasing and equalizing access so pervasive, that employers became the major source of funding for this increased coverage, and the health services faced little bargaining from payers for the lowest price. The prices for other goods and services also rose rapidly. Costs as such were of little concern. Prior to this, in the mid-60s, the federal government had set the stage through Medicare for the elderly and a generous Medicaid program for the poor.

But by the early 70s, funding sources increasingly questioned this open-funding cornucopia. And now, in the 80s, this questioning has turned into an assault on the traditional fee-for-service model with its limitless charges. The assault has taken the form of managed care and competition between delivery models — the mainstream fee-for-service model and several types of managed care models, ranging from those with salaried staff to independent practice associations (IPAs). The IPA was a legitimate response on the part of the medical profession to maintain the essence of the fee-for-service model in the wake of competition from emerging models that intruded on the professional prerogatives described above.

If the medical profession can remain cohesive enough, it most likely can retain the essence of its necessary freedom to diagnose and treat according to appropriate professional standards, but it will have to relinquish its previously presumed right to be the exclusive determiner of method and amount of payment. To be the exclusive determiner of standards of practice regarding diagnosis and therapy, the profession will have to become cohesive enough to establish practice protocols by specialty that can be translated into costs, before non-physician managed care leaders set those standards — likely to the detriment of overall quality of care. Hence, physicians must defend their professional prerogative to diagnose and treat, a prerogative hardly negotiable, but they must also negotiate reasonably on economic issues.

**Price competition from other HMO types is eroding the incomes of mainstream medical professionals and threatening their style of practice.**

A properly managed IPA model has the potential to achieve this objective. The IPA model fits the free enterprise, open choice mentality of our culture. The IPA can founder if it is priced too high in today's health services markets. But because of its open choice nature, it may not have to sell at the lowest price to survive. Open choice of physicians, both primary care physicians and other specialists, is an American value bordering on a civil right.

People have short memories. It should be recalled that the IPA managed care model is not new. It was invented in Washington state by the county medical associations. IPAs grew in a period of economic affluence during and after World War II, and hence had the advantage of easy bargaining and an expanding market among employed groups.

Now, of course, this IPA model in the Twin Cities and elsewhere, is running into rough waters because the price competition from other HMO types is eroding the incomes of mainstream medical professionals and threatening the style of practice to which they have become accustomed. Critics argue that these average incomes are too high and that an appreciable amount of health care is at the margin of being worth the cost for benefits received. Hence, the need for monitoring physicians' practices to flush out the "outliers," however defined.

Though crude, current methods of monitoring medical practice must be applied as judiciously as possible within the profession. Thus, IPAs and other types of HMOs should carefully research and develop methods of quality control. It is crucial that physicians collaborate with appropriate research methodologists in this important endeavor instead of being besieged by DRGs imposed quite arbitrarily by outside funding agencies. The profession for far too long has assumed that how physicians practice is strictly an internal matter.

Is a large IPA model viable? Certainly PHP of Minnesota, with some 3,600 physicians, is by any standards a large IPA. Can there be an integrated working relationship on standards and volume of services between physician members and management? Or is it practical only to split physicians into groups of 200 or so — groups which are small enough for internal communication and review of their practice patterns together with management? It would seem if mainstream medicine could offer an open system and monitor volume and standards in the competitive environment, the IPA may be able to remain a dominant option in a culture like the United States'. If not, it will be fragmented among other types of HMOs and lose its clout.

My staff at the University of Chicago and I intensively reviewed HMO and competitive option developments in the Twin Cities and Chicago markets from 1980 to 1983. We concluded that a major reason for the early development of HMOs and the competitive option concept in the Twin Cities was the policy-forming style typical of this area. Of major influence was the cohesiveness of business and industry, whose style was to gather information for rational discussion in order to arrive at a consensus. The medical profession was part of this consensus. Notably, its members were also accustomed to practicing in groups.

Chicago, on the other hand, is four to five times the size of the Twin Cities, with little cohesiveness in business and industry and a relatively fragmented medical profession. Also, the Chicago area is characterized by a great deal of ethnic pluralism. The result is a political style of confrontation, almost reaching for the jugular but not quite. Political bargaining is fierce and frequently dirty.

**The concept of a competitive, commercial health service marketplace can go too far.**

In the summer of 1987 I returned to the Twin Cities to get impressions of what had happened since I completed my study in 1983. I began to wonder if the style was still consensual, or had turned confrontational. My impressions led me to conclude that internally the profession, rather than the larger society of which it is a part, had become confrontational. Although I understand why, I deplore that development; professions should be collegial by their very nature. HMO and hospital administrators are clearly adversarial now — a shift I believe is bad for society and bad for the profession. The concept of a competitive, commercial health service marketplace can go too far.

Employers are becoming the choosers of HMOs and are using blocks of employers (patients) as bargaining chips, rather than allowing individual employees to choose their own physicians. The social contract is shifting from patient-physician to employer-physician, and the implications need examination. The Twin Cities bears watching in this regard. The medical profession in Minnesota, and particularly in the Twin Cities, bears the heavy responsibility of maintaining an open system at reasonable costs or risks being fragmented into bickering factions — an unworthy portrait of a great profession. Physicians must establish practice protocols so they know what they are providing and at what cost. Meanwhile, big buyers need to know what they are buying, and that physicians are in charge of the standards.

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*Odin Anderson is a professor of sociology in the University of Chicago's Graduate School of Business, Program in Health Administration, and at the University of Wisconsin-Madison, Department of Sociology and Program in Health Services Administration. He is also author of the book* HMO Development: Patterns & Prospects — A Comparative Analysis of HMOs, *published in 1985 by Pluribus Press, Inc., Division of Teach'em Inc., and the Center for Health Administration Studies, University of Chicago.*

## **Hospitals** from page 19

followed suit), as local hospital management tries to solve the vexing issue of optimal capacity.

For health care consumers, the evolution of Twin Cities hospitals shouldn't be unsettling. The same doctors will be performing many of the same services, but sometimes in new surroundings. The quality medical care that the Twin Cities is famous for will still be provided, but more efficiently and more cost-effectively.

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*Vic Ellison is vice president for public affairs at the Council of Hospital Corporations, a trade association representing 30 hospitals in the seven-county metro area.*

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# Competitive Medicine
## A Survey of Minnesota Physicians

*Stephen Dombrosk*

Physicians feel increasingly powerless in our health care system, and they are gravely concerned about how this will affect the quality of patient care in what's fast becoming a medical marketplace, according to a survey conducted this fall by the Minnesota Medical Association's Ad Hoc Committee on Competition.

The survey asked Minnesota physicians how recent changes in the ways health care is regulated, delivered, and paid for affect the quality of medical care and the ability of physicians to exercise their medical judgment. Also probed were the implications of these changes for the personal lives of physicians — the level of satisfaction they derive from the practice of medicine and how well their medical training had prepared them for the new world of HMOs, PPOs, DRGs, contracts, lawyers, and accountants.

Many of the 509 responding physicians agreed on a number of points:

► 62% believe that prepaid plans have reduced their ability to act as advocate for their patients;

► 57% say that a third-party payer has limited treatment options they would have otherwise recommended for a patient;

► 45% believe trust among physicians has declined;

► 76% enjoy medical practice less than they did five years ago;

► striking majorities rate their medical training as "very poor" in preparing them to deal with contract negotiation, marketing, and financial management; and

► 85% favor changing the law to make collective bargaining possible for physicians.

### Prepaid Plans

Almost nine of ten physicians surveyed said they provide some care to patients covered under prepaid plans such as HMOs, PPOs, or triple option plans. Within the Twin Cities metropolitan area this percentage was 95; in outstate areas about 80% of physicians see some patients covered by prepaid plans. Almost three-fourths of the physicians reported an increase in the proportion of their patients enrolled in HMOs over the last five years, while 64% reported a decline in the proportion using fee-for-service (indemnity) plans.

Clearly, prepaid plans have expanded their coverage across the state, but penetration remains lower outside the metropolitan region. Thirty-six percent of metro area physicians reported that more than half their patients are covered by prepaid plans, while in the north/central regions only 7% of physicians have such patient caseloads, and in the southern third of the state no physician reported that over half of his or her patients were in prepaid plans (Table 1).

This disparity also shows up when we look at the number of plans under which each physician provides medical care. In the southern region, half of those physicians providing care under prepaid plans work with only one plan, while in the Twin Cities metro area half of physicians working with plans work with more than three.

Despite the growing importance of prepaid plan agreements, 14% of physicians reported they have no formal procedures for evaluating agreements with plans prior to signing. Only 19% seek the advice of legal counsel, and just 14% contact medical practice consultants. Half of the physicians surveyed reported that they conduct an in-house review, with 40% gaining information through informal discussions with other physicians.

A need for stringent review may be indicated by the finding that 58% of physicians surveyed reported that their experience after signing an agreement or otherwise affiliating with a prepaid plan led them to regret the decision. This is especially true in the metro and north/central regions and less the case in the southern region (Figure 1). This result may be explained by the relatively low penetration of the prepaid plans in the southern portion of Minnesota. It may be that physicians in the southern third of the state have not yet accumulated enough experience with the health plans to have encountered some of the problems reported by physicians in other regions.

Significant variations were also found among clinics of different sizes. Almost three-fourths of physicians in clinics of less than five physicians reported having had regrets over their affiliations with prepaid plans. Only about one-fourth of physicians in clinics of more than 50 doctors said they have regrets about an affiliation with a plan, perhaps because they are further removed from the day-to-day business operations of the clinic.

TABLE 1
Percentage of patients covered by prepaid plans by region

| | Metro | South | North/Central |
|---|---|---|---|
| Less than one-fourth | 16 | 64 | 49 |
| One-fourth to one-half | 44 | 11 | 32 |
| Over one-half | 36 | 0 | 7 |
| Not sure | 4 | 24 | 12 |

Notably, a solid 62% majority believe that prepaid plans have had a negative impact on their ability to act as an advocate for their patients. Slightly more than half also feel that the plans have had a negative affect on the doctor-patient relationship. In both cases roughly one-fourth of the survey respondents felt that this depended upon the particular prepaid plan.

Physicians gave a wide range of responses when asked about specific problems they have had with prepaid plan agreements. Many complained that the arrangement interfered with the physician's ability to provide care to patients. Specifically, they cited loss of control over treatment, pre-approval requirements, conflicts between medical decision-making and reimbursement, and excessive paperwork and data monitoring requirements. Financial issues were also frequently listed, including third-party failure to distribute funds that had been withheld from physicians, excessive discounting and withholding, and unreliable or slow reimbursement. Providing care under plan agreements results in financial losses, according to 17% of physicians.

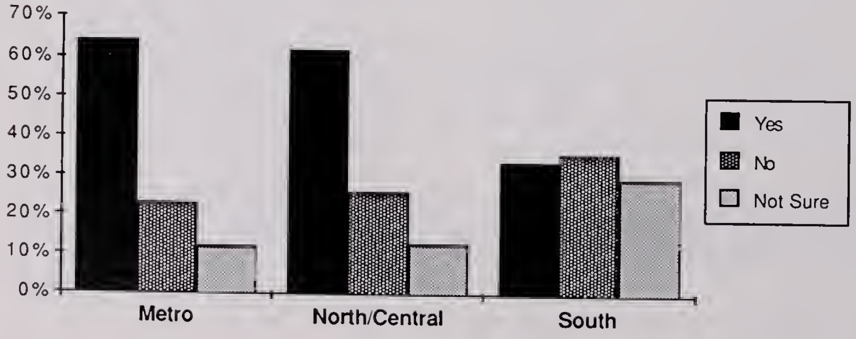
## Regulation of Care

Broadening the questions to include government payment and regulatory measures, the survey asked physicians what pre-approval requirements they faced prior to rendering care to their patients. A full 84% reported that they must sometimes seek approval prior to hospitalizing their patients (Figure 2). About three-fourths said they must gain approval prior to surgery, while about half said they need approval for long-term care and some diagnostic procedures.

Increasing interference in physicians' ability to exercise their medical judgment emerged as a common concern. Fifty-seven percent said that a payer covering a patient has limited treatment options they would otherwise have recommended. Once again, the larger the clinic, the less often physicians cite this as a problem. Little variation is seen across the three regions, however.

When asked how this interference has affected treatment provided to their patients, physicians most often said it has limited referral options. Physicians reported that they are often unable to refer their patients to the specialist or treatment center they feel is in the best interest of the patient.

**Figure 1. Percentage Reporting Regret Having Signed Agreement With Prepaid Plan**



The next most frequent problems result from restrictions on hospitalization. One physician reported that a third-party payer's refusal to approve the readmission of a patient led to that person's death. Physicians cited as a related problem the move to release patients from the hospital sooner — often too soon. One physician described a case in which a patient, unable to see following cataract surgery, was forced to leave the hospital despite his blindness. Physicians also faulted restrictions on their choice of hospitals and the refusal to allow hospital admission the night before surgery.

Other problems reported as a result of third-party interference run the gamut of situations encountered in medical practice. Prohibitions on the ability to prescribe particular medications were cited by 6% of the physicians. Limited treatments included psychotherapy, elective surgery, cataract surgery, transplants, mammographs, cardiac catheterization, tubal ligation, and physical therapy. Long-term care, home care, preventive care, follow-up care, and diagnostic procedures were all reported as restricted. Application of "standard" treatment plans by third-party payers is resulting in the refusal to accept treatments that deviate from the norm, according to 9% of the physicians.

Economic pressures and incentives built into reimbursement plans have resulted in occasional conflicts between third-party requirements and patient needs, according to 50% of the physicians; 14% report frequent ethical conflicts between plans and standards of practice. Fully 61% of physicians reported that a patient care decision they have made has been challenged after the fact by a review body, and 60% reported that such a review has led to denial of payment for already rendered care or to some other sanction. Some physicians reported that financial incentive structures influenced their patient care decisions. Several respondents said they refer patients to specialists more quickly than perhaps necessary to ensure that expensive diagnostic tests do not go on their plan "profiles."

## Competition Between Physicians

In addition to the issues evolving from third parties, many changes are arising from within the medical community itself. For example, competition for patients has increased. While 52% of physicians statewide believe that there are "about the right number" of physicians in their specialty in their part of the state, this result varies greatly by region and specialty. In the Twin Cities metro area physicians are equally divided on the question of whether there are the right number of physicians or too many. In the north/central region, 31% believe there are too few physicians, while an overwhelming 71% of physicians in the southern part of the state believe there are the right number (Table 2). Broken down by specialty, the results show that internists and general surgeons were more likely to say there are too many physicians in their area at this time, while family practitioners and psychiatrists were more likely to report that there are too few to meet patient demand.

Although 51% say that competition has had no impact on their practice income, 29% report a significant decrease in income, while just 8% say competition has created new opportunities to increase income. Twenty-three percent reported increased pressure from other providers to become involved in arrangements involving commissions, rebates, or split fees. General surgeons were somewhat more likely to report having faced this situation. Most commonly cited were requirements for discounts as a condition for referring patients.

**TABLE 2**
Perceived physician supply by region

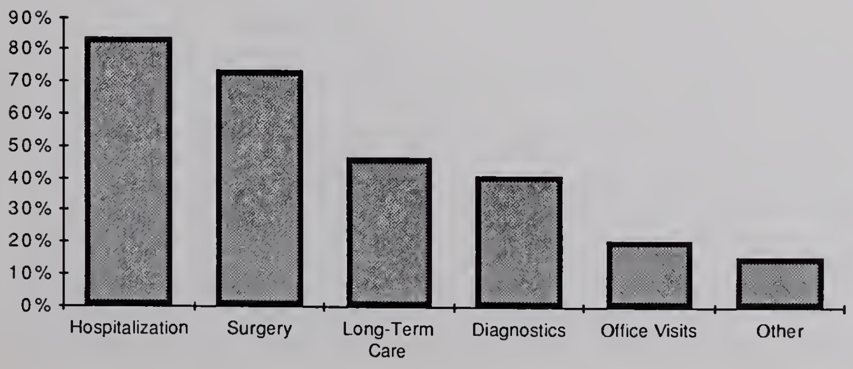
| | Metro | South | North/Central |
|---|---|---|---|
| Too few to meet patient demand | 8% | 17% | 31% |
| About right number | 45 | 71 | 54 |
| Too many in this area now | 44 | 10 | 12 |
| Not sure | 3 | 2 | 2 |

Competition for patients has also affected the practice of medicine in ways unrelated to finances. Trust among physicians has declined, according to 45% of the respondents; 29% see less collegial cooperation and communication, while the same percentage report fewer patient referrals among physicians.

## Personal Issues for Physicians

When asked how their personal sense of fulfillment from the practice of medicine had been affected by all the changes in the medical practice environment over the last five years, 76% reported that the changes had decreased their enjoyment of practice. This percentage was roughly consistent across all three regions of the state and across the specialties. Some differences were seen based on physician age and clinic size. Younger physicians were less likely to report a decrease, possibly because many of the changes were well underway at the time they entered practice. Physicians in the largest clinics, those comprised of over 50 doctors, were also less likely to report a decrease in their enjoyment of practice.

Figure 2. Percentage Required to Obtain Approval Prior to Rendering Patient Care



Liability and malpractice were most often cited (by 8%) as factors having the greatest impact in changing physicians' personal satisfaction with medical practice. More paperwork demands were also listed by 8%. Most concerns were related to limitations on the ability to practice — bureaucratic reviews (8%), loss of control (6%), government regulation (5%), prior authorization requirements (3%), and many others. Physicians indicated that other conflicts arise between business decisions and medical concerns — corporate intrusion into medicine (6%), conflicts with payers over patient care (5%), pressure to not provide care (5%), and hardball games in marketing (2%). Seven percent cited dropping reimbursements and frozen fee schedules as factors that most decreased their enjoyment of medical practice.

Only 3% of the respondents indicated that changes in the medical environment had increased their sense of fulfillment from practice. No longer having to worry about the ability of HMO patients to pay for care and a general enjoyment of the challenge of work within a particular specialty were mentioned as positive aspects. One respondent reported that moving from patient care to administration had increased his or her personal satisfaction, while another was pleased at the greater acceptance of a part-time role for physicians.

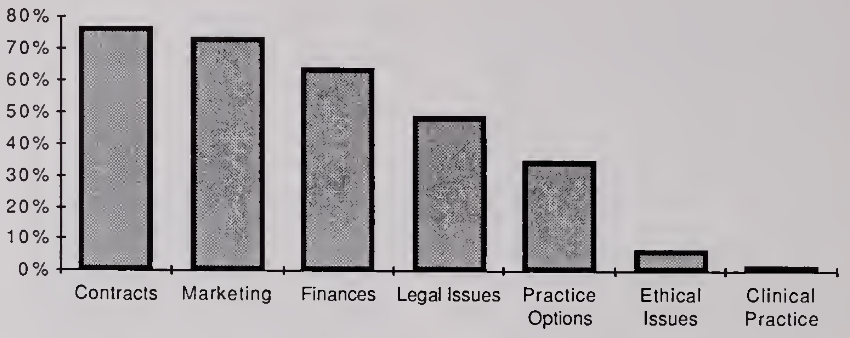
## Information Needs

Changes in the medical care environment have created new demands for information. Half the physicians surveyed said they would like additional information on financing and regulatory systems. Only 17% said they consider themselves very familiar with those systems.

Physicians gave extremely low ratings to the performance of their formal medical education in preparing them for the nonclinical aspects of medical practice. Fully 77% rated their educational experience as "very poor" in preparing them to deal with contract negotiation (Figure 3). Other poor ratings were found in the areas of marketing (74%), financial management (64%), and legal issues in medicine (49%). Majorities felt that they had been educated adequately or very well in the areas of clinical practice and ethical issues. Thirty-eight percent of physicians chose financial management as a subject for which they desired more information. Contract negotiation and legal issues in medicine were not far behind, cited by 36% and 35%, respectively.

Only 2% of the physicians said they felt that the general public was sufficiently informed about the choices between health plans; 67% said they believe the public is very much in need of more information. When asked which issues were most in need of public education, 59% responded "all of the above," which included plan limitations and benefit restrictions, long-term care coverage, quality/cost issues, limitations on physicians' abilities to exercise medical judgment, and plan impacts on continuity of care. Prepaid plan limitations and restrictions were cited by 28%. Five percent expressed frustration with the need to explain plan limitations to patients and the need to enforce guidelines they do not always agree with.

**Figure 3. Percentage Whose Medical Education Prepared Them "Very Poorly" in This Subject**



## Public Policy Issues

Collective bargaining between physicians and health plans is one suggested policy response to the changing medical environment. A striking 85% majority of respondents said they would favor changing the law to make collective bargaining possible for physicians. Of those favoring this change, 25% labeled it "very important — highest priority," and 51% said it was "quite important." Groups most likely to favor the change were physicians aged 35 and younger (92% in favor) and physicians in the Twin Cities metro area (88% in favor). Those least likely to favor the change were physicians in clinics of over 50 doctors (73% in favor) and physicians in the southern third of the state (76% in favor).

Related to collective bargaining is physicians' overall sense that they have lost much of their influence in the health care arena. When asked the degree to which physicians determine the allocation of the health care dollar, 64% responded that physicians play a subordinate role to other forces. Twenty-eight percent said they believe physicians largely react to changes made by others. Only 19% said they believe physicians have retained their traditional and primary influence in the health care system; 14% said they saw themselves as sharing an equal role with government, hospitals, and third-party payers.

## Measuring the Quality of Care

Central to most discussions of health policy is the issue of defining and measuring quality. The physician's work has long been described as the "art" of medicine, but new data processing capabilities combined with the massive information banks maintained by third-party payers and government have produced an impetus to quantify the outcome of medical treatments.

Surveyed physicians were divided on the question of whether or not this effort can be successful. Twenty-eight percent of physicians said quality can be measured in quantifiable ways; 38% said it cannot be measured; and 33% said they are "not sure." Respondents in clinic settings of less than five physicians were least likely to believe that quality could be measured (48% no), while a slim plurality of 35% of physicians in clinics of over 50 doctors said they think quality is measurable.

## Conclusions

On the forefront of many changes affecting health care economics in this country, Minnesota often learns first what works and what doesn't. This survey was designed to find out what Minnesota physicians think is, and is not, working. Some themes emerge clearly through the survey data. Physicians' satisfaction with the practice of medicine is dropping, largely due to their growing sense of loss of professional autonomy. Physicians see an inevitable decline in the quality of care given to their patients, but they are uncertain whether this decline can be measured in a quantifiable way.

As one physician wrote, "It's a dog-eat-dog world out there and getting worse by the hour." Solutions to the questions facing society in the organization of medical care will not come easily. The changes in medical practice in Minnesota have far outrun the expectations of just a few years ago. Many physicians fear that the continued direction of these changes will be decided in an environment in which they increasingly find themselves subordinated to the ethics of business, rather than the Hippocratic Oath.

## MMA Ad Hoc Committee on Competition

Policy implications and recommendations growing out of this study will be addressed in the forthcoming report of the MMA Ad Hoc Committee on Competition, chaired by Kent Wilson, M.D. The committee has been conducting hearings on the issues covered in this survey since the fall of 1986. Its final report, to be released in the spring of 1988, will enlarge upon the data in this summary.

## Technical Note

A total of 509 physicians responded to the survey, representing 28% of the total group contacted. The sample was chosen by a standard nth selection from the MMA physician database, which had been stratified to ensure proportional representation by specialties and geographic regions. The survey was conducted by mail with a five-week field period and one follow-up postcard after week three. The sample response was validated statistically against the MMA database on the criteria of gender, specialty, and region. A majority of 62% of the respondents were from the Twin Cities metropolitan area; 21% were from the southern third of the state, and 17% from the central and northern regions. These physicians represented a cross section of age groups, specialty affiliations, and clinic sizes. Results of this study can be reliably projected to the universe of Minnesota physicians within a 4-5% margin of error.

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*Stephen Dombrosk is director of Management Information Services at the Minnesota Medical Association. He has worked with the survey research firm of Peter D. Hart Research Associates and at the American Hospital Association. He is the author of* Seasonal Patterns of Hospital Activity *and articles on hospital closures and other issues.*

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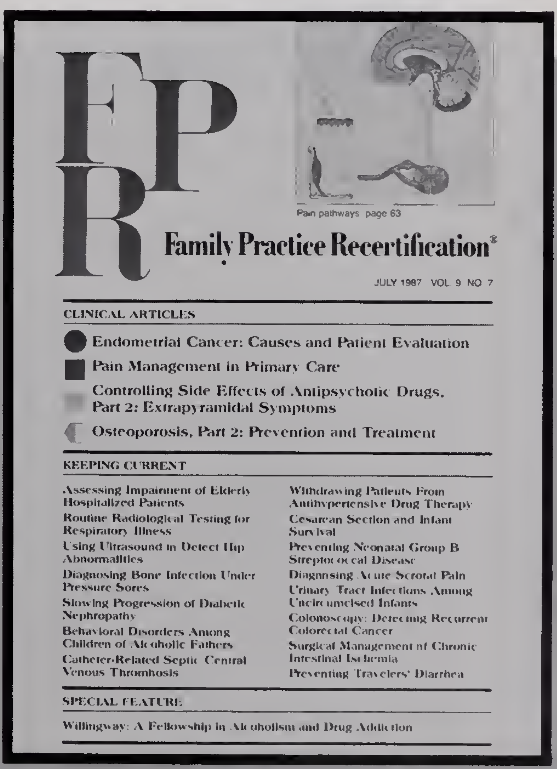

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Photo by Tom Foley

# University Hospital Surviving the 1980s

Sara Saetre

"They are the big cars of the health care industry," Paul Ellwood, founder of the health care industry's think tank, InterStudy, has said. As the first human being to conceive of an HMO, Ellwood appears to have only a modicum of patience for anything that seems expensive, including the public teaching hospital. Long protected by the aura of a triune mission (teaching, research, and service), teaching hospitals of the 1970s had grown arrogant, Ellwood seemed to suggest — too luxurious for the cost-conscious 80s. Research had come to seem extravagant, like the tail fins on an oversized car. And graduate medical education certainly gobbled up too much gas. . . .

Richard Reece said it just as bluntly. In a *Minnesota Medicine* editorial in October 1985, he cited the attitude of community physicians toward one of our own public teaching hospitals, The University of Minnesota Hospital and Clinic (UMHC). Physicians thought that the environment at UMHC had "nurtured an insular, arrogant, and complacent view of the outside world," wrote Reece.

But few hospitals today can afford to be any of those things. Occupancy rates at Twin Cities hospitals have been declining for the past decade, according to studies by the Metropolitan Council. In fact, hospital use in that time has plunged more than 20 percent. Hospital stays are shorter, or don't happen at all, as surgeons perform a growing number of procedures on an outpatient basis, and as physicians must increasingly manage patient care within the caps set by Medicare and other insurers.

The trend isn't getting worse: there was little or no change from 1985 to 1986 in the number of admissions, or in the average length of stay, in metropolitan hospitals, according to the Metropolitan Council. But the decline has resulted in a shakedown that's left most hospitals doing a fast shuffle, dancing to the new tune.

UMHC has certainly not been immune to these pressures. It is arguably the premier teaching hospital of our region, with a tradition rich in innovations and breakthroughs, such as the world's first pancreas transplant, or more recently, the region's first heart-lung transplant. The University of Minnesota has trained the vast majority of physicians in a state that's considered one of the healthiest in the nation.

But of course that's not enough. Today no academic health center can rely on tradition alone. In an article in *Health Affairs* in 1985, industry observer Eli Ginzberg asserted that such centers would be sharply tested in the ten years from 1985 to 1995. They were, he wrote, "much more vulnerable than assumed."

Another analyst — David Lothson, who follows the hospital industry nationally for Paine Webber Inc. — has been equally dire. "We view the next three to four years as a period of struggle to determine survival — not dominance," he told the Associated Press in April 1987.

And closer to home, James Knapp (then president of the Minnesota Medical Association) wrote in the *Minnesota Journal* in August 1986 that just five or six of 30 Twin Cities hospitals might survive to 1991.

Such predictions were supported, in part, by the University's own experience. For example, in the first half of this decade, the daily patient census at UMHC declined just as much as the census at other hospitals in the community. By the hospital's own count, its admissions in 1981 totaled more than 21,300. By 1986, that number had dipped below 17,700 — a loss of about 3,700 sick folks.

Meanwhile, those years brought a race to negotiate the most favorable contracts with the HMOs. Hospitals able to deliver the most economic packages had a headstart, and UMHC appeared not even to have heard the gun. The patient drain "galled the University" wrote one observer.

**And in a world in which only the swiftest could survive, UMHC carried the heavy baggage of a number of negative perceptions.**

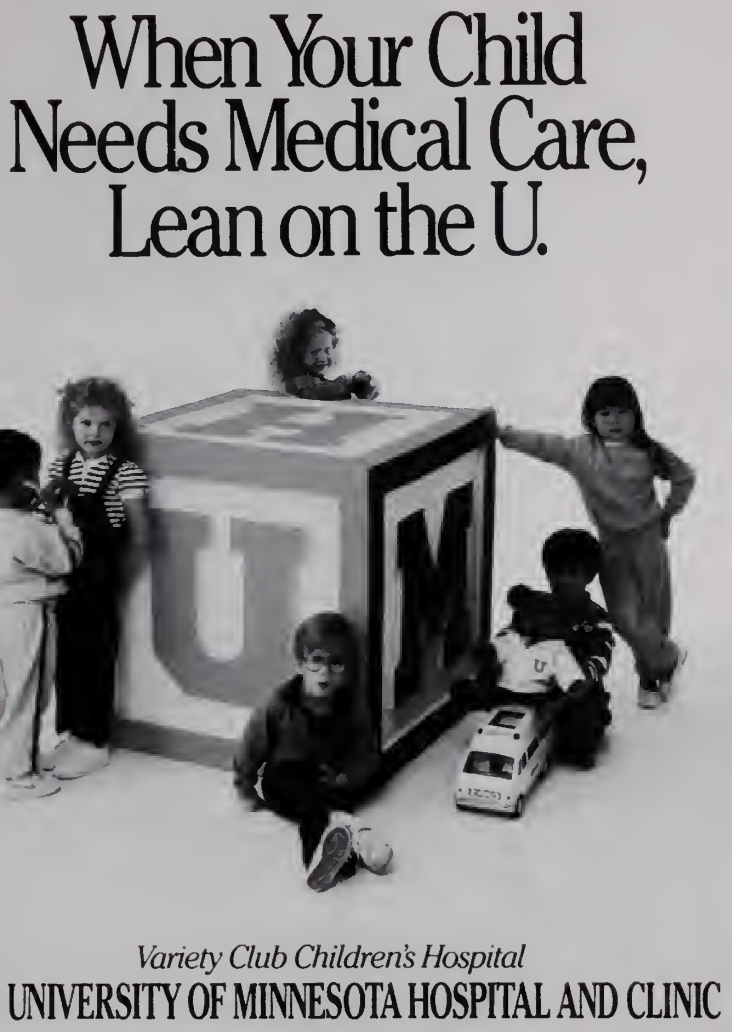
In a climate in which services were being purchased from the lowest bidder, UMHC could not fare well. A 1985 study by Robert Mulhausen (of St. Paul-Ramsey Medical Center), Johnelle Foley (of the Minnesota Association of Public Teaching Hospitals, or MAPTH), James Moller (of UMHC), Robert Petzel (of Veterans Administration Medical Center), and Alvin Schultz (of Hennepin County Medical Center) identified 11 factors that increase the cost of operating a teaching hospital. The factors included the cost of undergraduate and graduate medical education, training programs in preventive medicine, biomedical research, and the internal and external review and regulation imposed on teaching hospitals. Other factors were the mix of patients, care of the indigent, intensity of care, and new medical care programs.

University Hospital was also encumbered, five years ago, with an outdated, drearily inadequate building. With no state appropriation, it faced a $125 million tab for constructing a new facility.

And in a world in which only the swiftest could survive, UMHC carried the heavy baggage of a number of negative perceptions. The U treats only the most complex or severe illnesses, went one story. The U is exorbitantly expensive, went another. The U's clinical faculty is preoccupied with its own internal squabbles, went yet another. It was "a series of fiefdoms held together only by grievances over parking." Nor did the U care about the outside world: In fact, went the whispers, the U actually stole patients from referring docs.

But University Hospital has fought back. Probably few administrators or clinical faculty members would agree that the hospital had been an oversized car in a world of economy vehicles. But most probably would agree that, for better or worse, the hospital has retooled the engine that pulls it.

Just one example is the addition of a planning and marketing department just four years ago. A number of ad campaigns ("When Your Child Needs Medical Care, Lean on the U") have spruced up the University's public image. A new facility on the banks of the Mississippi River is in place. And those are just the most obvious signs of a retooling. More subtle changes include the way residents are educated ("Awareness of costs around here is all-consuming," says David Brown, dean of the



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THE UNIVERSITY OF MINNESOTA HOSPITAL AND CLINIC

Courtesy of UMHC Department of Planning and Marketing

**Ads like this one have helped spruce up University Hospital's public image. The ad campaigns are among the more obvious strategies dreamed up by the hospital's planning and marketing department.**

University's medical school), and the way referring physicians are treated. Even the tiniest of changes suggest a shift: the hospital's new parking ramp has purchased golf carts for use by patients between the ramp and the hospital.

And in some significant ways, the retooling seems to be paying off. One indication of success on a hospital's scorecard is the rate of admissions, and at University Hospital, the score has recently improved. Admissions this past fiscal year rose dramatically, up 1,500 from 1986 to 1987. Daily census zoomed in that time by about 23 beds a day on average, for an occupancy rate of 72 percent. According to Alfred Dees, associate director of UMHC, the number budged yet higher in the first quarter of 1988, to an occupancy rate over 73 percent.

But the rules of the game have shifted, and occupancy rates aren't worth as many points as they used to be. Still, there are other indications of an upward swing at University Hospital. One is a nice new string of contracts with HMOs. In this game of Monopoly, that's the equivalent of putting hotels on Boardwalk and Park Place. University Hospital is happier than most players to be collecting rent, since it lost a sizable investment in its first experience with an HMO.

In addition to a new marketing department, another structural change helped achieve the new standing with HMOs. It was initiated by the chiefs of the 18 clinical departments at UMHC, in an effort to unify their diverse (and sometimes admittedly fractious) units. They formed an association independent of any one department, of the hospital, and even of the University itself. Now known as UMCA (that's pronounced "OOM-cuh"), it is the University of Minnesota Clinical Associates.

UMCA's mission has received little publicity. It is to quietly negotiate contracts with HMOs and other purchasers of care, to initiate joint ventures with physicians and hospitals, and to otherwise assist in the marketing of the clinical departments.

"We provide a united front," explains David Coombes, who has been president of UMCA since its inception. "We're a conduit to larger groups of physicians and purchasers of care."

One of the first moves of the association in 1985 was hailed by some observers as a significant step forward. University Hospital and UMCA sunk a chunk of their life savings into a joint venture with Primary Care Network (PCN), a management company cofounded by Connecticut businessman Edward C. Whitehead. The plan was to form a for-profit HMO, associated with UMHC, and managed by PCN. Whitehead envisioned the HMO, known as Health Partners, as the first in a national chain of HMOs connected to university hospitals. The model organization began operating in March 1986, and the rest is history. "We lost our shirts on that one," admits John LaBree, codirector of the hospital's outreach program. Declared insolvent in August 1987, Health Partners had lost nearly half-a-million dollars.

Those who try to explain the failure can't take the sting out of it. "We have to pay that money back," says David Coombes. "This is a competitive environment, and

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**References:**
1. A. Morales et al., New England Journal of Medicine: 1221. November 12, 1981.
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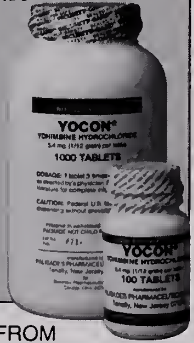

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we came into it too late. We took a calculated risk."

But while Health Partners was doomed, other relationships have solidified to produce a steady new flow of patients to the University. In 1987, UMCA has negotiated formal contracts with Share, Physicians Health Plan, Group Health, and MedCenters. "The relationships have resulted in significantly increased business," says Coombes, for both inpatients and outpatients.

The contracts all allow discounts on fee-for-services. In one experimental relationship, UMCA allows a capitated arrangement. "We want to see how it goes," says Coombes.

And UMCA is casting its net yet wider. To establish a national referral base, the association is emphasizing specialty services of the University. For example, says Coombes, "We've packaged the heart, heart-lung, pancreas, and liver transplant programs into one major product to attract purchasers of care beyond this region. In the past two months, the presidents or medical directors of all the major national HMOs have come to see us.

"That's a major switch for us. We've never dealt on a national level before."

The attraction, says Coombes, is the notion that the University provides state-of-the-art care. "The reputation for quality is bringing in the major suppliers," he believes. The transplant program is an example. UMHC performed 190 heart transplants alone last year, with 96 percent of patients surviving to lead productive lives after one year. "That's the best rate in the country," says Coombes.

With the 80s emphasis on costs, a perception of "quality" was not initially such a strong selling point. Paul Ellwood cited the University's liaison with Primary Care Network as an indication of a turn in the tide. "Until now, the HMOs have competed on price and access — not on quality," he said.

**With the 80s emphasis on costs, a perception of "quality" was not initially such a strong selling point.**

UMCA is also aggressively pursuing closer relationships with the region's larger clinics. The first established was a cooperative agreement between University Hospital and three Hibbing medical facilities: the Adams Clinic, the Mesaba Clinic, and the Mesaba Regional Medical Center. The University sends specialists in cardiology, gastroenterology, rheumatology, neurology, and pulmonary medicine to Hibbing. In turn, Hibbing physicians refer patients to UMHC, although not exclusively. "They can send patients anywhere they wish under the agreement," says John LaBree. "We hope they'll think of us first."

It would seem they do. Hibbing physicians referred about 400 patients to University Hospital last year. That's up an astonishing 300 percent from previous years. And according Geoff Kaufmann, director of planning and marketing at UMHC, the Hibbing hospital has benefited too. "It's profitable now," he says, "and it wasn't nine months ago."

UMCA has also just signed a contract with the Marshfield Clinic in Marshfield, Wisconsin. And it has a letter of intent from the Dakota Clinic in Fargo, North Dakota. In fact, Coombes says he is pursuing relationships "with a myriad of folks in a tri-state area," relationships he says may prove to be just as important to the University as the relationships to the HMOs.

Physicians and clinics aren't looking to University Hospital to set broken bones, of course, or even to provide somewhat more complicated work. Nor do they support University Hospital because they graduated from the University of Minnesota Medical School, or out of the goodness of their hearts. "They want something back," says John LaBree.

They want some assurance, for one thing, that the story about patient-stealing ain't true. "There are a lot of war stories on that," says Geoff Kaufmann, "but most of them are old tapes. We've gone a long way toward convincing physicians that this is not a black hole."

John LaBree's outreach program is one of the University's chief tools for building trust with outstate health care providers. An Outstate Physicians Advisory Committee formed in recent years now has 38 physician members from around the state.

"Communication is so critical," says LaBree, and that is one of the committee's chief functions. LaBree also tracks referral patterns through computerized records. "If we find that a physician or clinic has been using us, and then stops, we call or write to ask why. There are many reasons that could be — it could be something as simple as a recent case, when one of our clinical faculty members had stopped going hunting with a referring doctor. Those personal contacts are very important."

University Hospital has also developed a survey form to assess the reaction of referring physicians to the care their patients received. If there's a complaint about the way a physician at UMHC handled something, LaBree contacts both the physician and his or her clinical chief. One of them then contacts the referring doctor.

In its latest move to cement its relationships in greater Minnesota, UMHC is dedicating a new telephone "hot line" for referring physicians. When complete, the system will be manned by an operator day and night. "The operator will bird dog a phone call until the caller gets through to the right person," explains LaBree. "And we'll log the phone calls, so we'll have a better idea of what's happening to them."

When peole call in, they're seeking very specialized services. That's long been the University's niche, but the niche has grown smaller. Today, "few hospitals can be all things to all people," writes

Vic Ellison in an editorial that appears on page 19 of this issue. Ellison, who is vice president for public affairs at the Council of Hospital Corporations (a consortium of 30 metropolitan-area hospitals), writes, "Instead, hospitals have begun developing . . . 'centers of excellence' in which they seek out their niche in the local market. By leaving some services to others, they have been able to capitalize on what they do best."

As hospitals focus on 'centers of excellence' — like the Minneapolis Heart Institute at Abbott Northwestern, or the Phillips Eye Institute at Mount Sinai — they're also finding out they must treat sicker people than ever before. In a sense, community hospitals have invaded the territory University Hospital had staked out.

**As hospitals focus on 'centers of excellence'. . .they're also finding out they must treat sicker people than ever before.**

"We've had to move up the ladder of tertiary care," says Geoff Kaufmann. "What do you call that? Providing quatrinary care?"

The University's special expertise in areas such as childhood leukemias, genetics, neurology, hypertension, and others, has been built through a commitment to innovation and research. The testing of promising treatments and modalities sets the University apart from just about everybody else in town, with few exceptions. Even the Mayo Clinic adopts mostly proven approaches. "We're much more at the front end than Mayo," says Kaufmann.

Of course, research costs money. The medical school has been quite successful in seeking research funds in recent years, with increases in funding of 15 to 20 percent per year. David Brown, dean of the medical school, has set an ambitious goal based on that track record: to make Minnesota one of the top five funded medical schools in the country.

Photo courtesy of UMHC Department of Planning and Marketing

Geoff Kaufmann and Dr. Alfred Dees work together to make sure that University Hospital survives the 1980s.

The costs of education and research are also offset by a state appropriation (5½ percent of the University Hospital's operating budget of $245 million). Payments by Medicare are adjusted to help defray the expense of graduate medical education.

But finally, yet another page in the account books has to make up the difference. Patient charges at UMHC continue to be higher in many cases than at community hospitals. According to a survey released in September 1987 by the Council for Hospital Corporations, UMHC's charges are about 6.5 percent higher on average for treatment of patients in the 50 most common DRGs in metropolitan area hospitals. (UMHC's charges are actually even higher; the council's figures have been adjusted to account for the additional costs of graduate medical education.)

**The future will almost certainly bring satellite hookups with outstate hospitals and clinics.**

"But those figures don't take severity into account," says David Brown.

There are few studies of the relative severity of cases in public teaching hospitals compared with community hospitals. But, "inferentially it's the case. University Hospital is a hospital of last resort. Many patients are sent there from other hospitals because they are very ill," according to Robert Mulhausen, chairman of the board of MAPTH and the chief of internal medicine at St. Paul-Ramsey.

John LaBree agrees. Treatment for DRG 89, for simple pneumonia and pleurisy, costs about three times as much at UMHC as at other Twin Cities hospitals, on average. "But the cases of pneumonia at many hospitals are basically well people who have pneumonia," says LaBree. "We see pneumonia in people who are very ill — patients who are immunocompromised, for example."

John LaBree, Geoff Kaufmann, and David Coombes agree that the special expertise of University Hospital has finally brought the HMOs and other insurers to it. They say UMHC is not more expensive, but competitively priced, in this niche. "We wouldn't be signing agreements with them if we weren't competitive," says Coombes. "We've brought the cost of a transplant way down, for example."

What will the future bring at UMHC? The next 15 or 20 years will probably find UMHC enjoying what will likely remain the newest facility in town, predicts Geoff Kaufmann. The future will almost certainly bring satellite hookups with outstate hospitals and clinics ("on a smaller scale than Mayo's," says Kaufmann). UMHC will certainly continue to rely heavily on its relationships with physicians. It will continue to seek out research and treatment breakthroughs.

Given all that, Geoff Kaufmann's prediction may come true.

"We're going to be around," he says. "We just keep getting bigger, and stronger."

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*Sara Saetre is a freelance writer living in the Twin Cities.*

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Rare instances of cardiac arrhythmias and hypotension have been reported following the rapid administration of 'Tagamet' HCl (brand of cimetidine hydrochloride) injection by intravenous bolus.

Symptomatic response to 'Tagamet' therapy does not preclude the presence of a gastric malignancy. There have been rare reports of transient healing of gastric ulcers despite subsequently documented malignancy.

Reversible confusional states have been reported on occasion, predominantly in severely ill patients.

'Tagamet' has been reported to reduce the hepatic metabolism of warfarin-type anticoagulants, phenytoin, propranolol, chlordiazepoxide, diazepam, lidocaine, theophylline and metronidazole. Clinically significant effects have been reported with the warfarin anticoagulants; therefore, close monitoring of prothrombin time is recommended, and adjustment of the anticoagulant dose may be necessary when 'Tagamet' is administered concomitantly. Interaction with phenytoin, lidocaine and theophylline has also been reported to produce adverse clinical effects.

However, a crossover study in healthy subjects receiving either 'Tagamet' 300 mg. q.i.d. or 800 mg. h.s. concomitantly with a 300 mg. b.i.d. dosage of theophylline (Theo-Dur®, Key Pharmaceuticals, Inc.), demonstrated less alteration in steady-state theophylline peak serum levels with the 800 mg. h.s. regimen, particularly in subjects aged 54 years and older. Data beyond ten days are not available. (Note: All patients receiving theophylline should be monitored appropriately, regardless of concomitant drug therapy.)

Lack of experience to date precludes recommending 'Tagamet' for use in pregnant patients, women of childbearing potential, nursing mothers or children under 16 unless anticipated benefits outweigh potential risks; generally, nursing should not be undertaken in patients taking the drug since cimetidine is secreted in human milk.

**Adverse Reactions:** Diarrhea, dizziness, somnolence, headache, rash. Reversible arthralgia, myalgia and exacerbation of joint symptoms in patients with preexisting arthritis have been reported. Reversible confusional states (e.g., mental confusion, agitation, psychosis, depression, anxiety, hallucinations, disorientation), predominantly in severely ill patients, have been reported. Gynecomastia and reversible impotence in patients with pathological hypersecretory disorders receiving 'Tagamet', particularly in high doses, for at least 12 months, have been reported. Reversible alopecia has been reported very rarely. Decreased white blood cell counts in 'Tagamet'-treated patients (approximately 1 per 100,000 patients), including agranulocytosis (approximately 3 per million patients), have been reported, including a few reports of recurrence on rechallenge. Most of these reports were in patients who had serious concomitant illnesses and received drugs and/or treatment known to produce neutropenia. Thrombocytopenia (approximately 3 per million patients) and a few cases of aplastic anemia have also been reported. Increased serum transaminase and creatinine, as well as rare cases of fever, interstitial nephritis, urinary retention, pancreatitis and allergic reactions, including hypersensitivity vasculitis, have been reported. Reversible adverse hepatic effects, cholestatic or mixed cholestatic-hepatocellular in nature, have been reported rarely. Because of the predominance of cholestatic features, severe parenchymal injury is considered highly unlikely. A single case of biopsy-proven periportal hepatic fibrosis in a patient receiving 'Tagamet' has been reported.

**How Supplied: Tablets:** 200 mg. tablets in bottles of 100; 300 mg. tablets in bottles of 100 and Single Unit Packages of 100 (intended for institutional use only); 400 mg. tablets in bottles of 60 and Single Unit Packages of 100 (intended for institutional use only), and 800 mg. Tiltab® tablets in bottles of 30 and Single Unit Packages of 100 (intended for institutional use only).

**Liquid:** 300 mg./5 ml., in 8 fl. oz. (237 ml.) amber glass bottles and in single-dose units (300 mg./5 ml.), in packages of 10 (intended for institutional use only).

**Injection:**
**Vials:** 300 mg./2 ml. in single-dose vials, in packages of 10 and 30, and in 8 ml. multiple-dose vials, in packages of 10 and 25.

**Prefilled Syringes:** 300 mg./2 ml. in single-dose prefilled disposable syringes.

**Plastic Containers:** 300 mg. in 50 ml. of 0.9% Sodium Chloride in single-dose plastic containers, in packages of 4 units. No preservative has been added.

**ADD-Vantage®* Vials:** 300 mg./2 ml. in single-dose ADD-Vantage® Vials, in packages of 25.

Exposure of the premixed product to excessive heat should be avoided. It is recommended the product be stored at controlled room temperature. Brief exposure up to 40°C does not adversely affect the premixed product.

'Tagamet' HCl (brand of cimetidine hydrochloride) injection premixed in single-dose plastic containers is manufactured for SK&F Lab Co. by Travenol Laboratories, Inc., Deerfield, IL 60015.

* ADD-Vantage® is a trademark of Abbott Laboratories.

BRS-TG:L73B Date of issuance Apr. 1987

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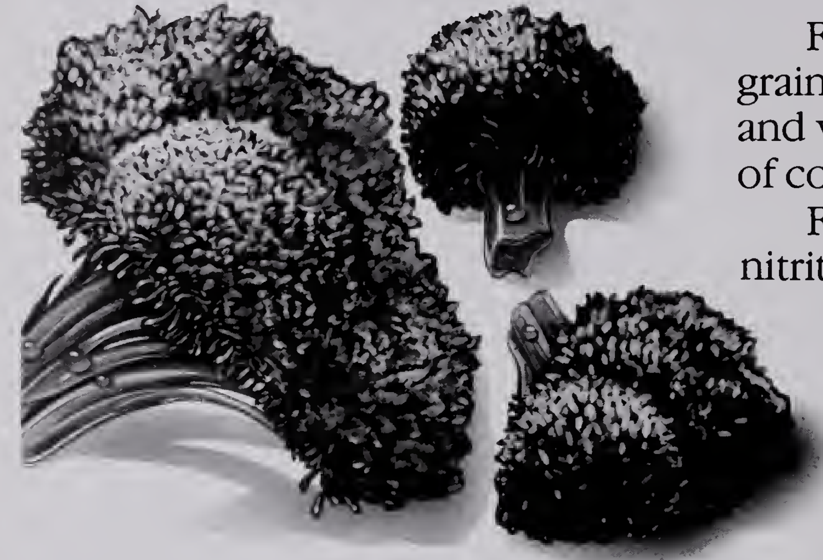

There is evidence that diet and cancer are related. Some foods may promote cancer, while others may protect you from it.

Foods related to lowering the risk of cancer of the larynx and esophagus all have high amounts of carotene, a form of Vitamin A which is in cantaloupes, peaches, broccoli, spinach, all dark green leafy vegetables, sweet potatoes, carrots, pumpkin, winter squash and tomatoes, citrus fruits and brussels sprouts.

Foods that may help reduce the risk of gastrointestinal and respiratory tract cancer are cabbage, broccoli, brussels sprouts, kohlrabi, cauliflower.

Fruits, vegetables, and whole-grain cereals such as oatmeal, bran and wheat may help lower the risk of colorectal cancer.

Foods high in fats, salt- or nitrite-cured foods like ham, and fish and types of sausages smoked by traditional methods should be eaten in moderation.

Be moderate in consumption of alcohol also.

A good rule of thumb is cut down on fat and don't be fat. Weight reduction may lower cancer risk. Our 12-year study of nearly a million Americans uncovered high cancer risks particularly among people 40% or more overweight.

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# Is Collective Bargaining the Answer?

Margo S. Struthers, Esq.

HMOs typically do not negotiate provider contracts with individual physicians. Instead, they offer a contract on a take-it-or-leave-it basis. Physicians in this community recently have become interested in collective bargaining as a possible means of achieving more bargaining power with HMOs and other third-party payers.

Collective negotiation of fees and other terms of provider contracts by independently practicing, competing physicians raises substantial antitrust concerns under both state and federal law. The greatest risk is that a court may determine that such physicians have participated in an illegal price-fixing conspiracy or group boycott. An agreement among competitors that has either the purpose or effect of raising, lowering, or stabilizing prices, directly or indirectly, is illegal price-fixing. An agreement among competitors not to deal with another competitor, or not to deal with a supplier or customer of the group of competitors, is a group boycott (which may or may not be illegal).

## Labor Negotiations

Federal labor laws govern the right to organize and act collectively as a labor organization. Although bona fide labor negotiations are generally exempt from the antitrust laws, it is unlikely that physicians can avoid the risk of violating the antitrust laws by engaging in collective bargaining through a labor representative, unless they are *employed* by the HMO (which for the purposes of this article should be considered to include all third-party payers). Independently practicing physicians, under the current conditions of the marketplace, are unlikely to be involved in a "labor dispute" within the meaning of the labor law antitrust exemptions, even if they are involved with a bona fide labor organization.

To constitute a "labor dispute," there must be an employment relationship between the physician and the HMO and there must be a dispute affecting an aspect of that employment relationship.

All of the circumstances must be evaluated in analyzing whether an employment relationship exists. Some factors generally considered include the extent to which: (1) the physician's practice is devoted to serving patients of an HMO; (2) the HMO retains the right to control the manner and means of a physician's practice; (3) the physician lacks an independent business or entrepreneurial interest in the venture (such as capital investment or profit to be derived from services provided by his or her own employees or others); (4) the relationship is ongoing between the physician and the HMO; (5) the compensation and hours of service are fixed, and (6) the materials, tools, personnel, and premises used in providing services are furnished and controlled by the HMO.

Even with the growing use of preadmission screening and length of stay review, quality assurance review, imposed policies and procedures, reimbursement withholding, and other requirements for contracting with HMOs, it seems unlikely today that HMOs have sufficient control over most physicians and their practices to bring provider contract negotiations involving HMOs within the meaning of a "labor dispute"; however, if HMOs assert greater control over physicians' practices, the issue of whether physicians are "employees" for purposes of the labor laws will need to be reevaluated. If HMOs continue to increase their supervision of the methods and means by which physicians practice medicine, the traditional, independent contractor relationship between the HMO and the physician may begin to look more like an employment relationship.

Circumstances also exist in which a bona fide labor organization may benefit from the labor antitrust exemption in attempting to regulate the working conditions of nonemployees to protect its employee members' working conditions. However, this does not appear likely to happen with respect to independently practicing physicians at the present time.

## Legislative Initiatives

Because exemption from the antitrust laws for collective bargaining by independently practicing physicians is not clear under the labor laws, enactment of further legislation may be desirable as a means of protecting physicians who engage in collective bargaining. One possibility is the enactment by the Minnesota Legislature of an exemption from the Minnesota antitrust laws for collective bargaining by independently practicing physicians, together with the enactment by Congress of an exemption from the federal antitrust laws. If Congress does not act, the Minne-

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sota Legislature could exempt collective bargaining by physicians from the federal antitrust laws by enacting state legislation meeting the requirements of the "state action" exemption from the federal antitrust laws.

To fulfill the requirements of the "state action" exemption, a state must enact legislation clearly articulating and affirmatively expressing such collective bargaining activities as state policy. In addition, the state must actively supervise collective bargaining. In effect, such legislation must displace competition with a regulatory scheme. For example, the state might establish an HMO ratemaking process, actively supervised by the state, that would require collective bargaining by physicians. Such regulations would necessarily involve some loss of freedom for the regulated, independent physicians. It will be essential that whatever regulatory scheme the state develops be worth the benefit of having the exemption for collective bargaining activities.

## Joint Ventures

Another collective bargaining alternative that would not require legislation is for physicians, and perhaps hospitals, to join together to establish joint ventures that would permit them to bargain collectively with HMOs. To do so will require that the participants be limited in number within any particular geographic and product market and that the joint venture be structured and operated in a manner that will minimize the likelihood of a successful challenge under state or federal antitrust laws. In-depth economic and legal analysis of the facts of each proposed joint venture will be required. If legislative exemptions prove politically infeasible, or unpalatable because of the regulatory scheme needed to support the exemption, joint ventures may be the most appropriate forms of collective bargaining by competing physicians.

*Margo Struthers is an attorney in the Minneapolis firm of Moss & Barnett.*

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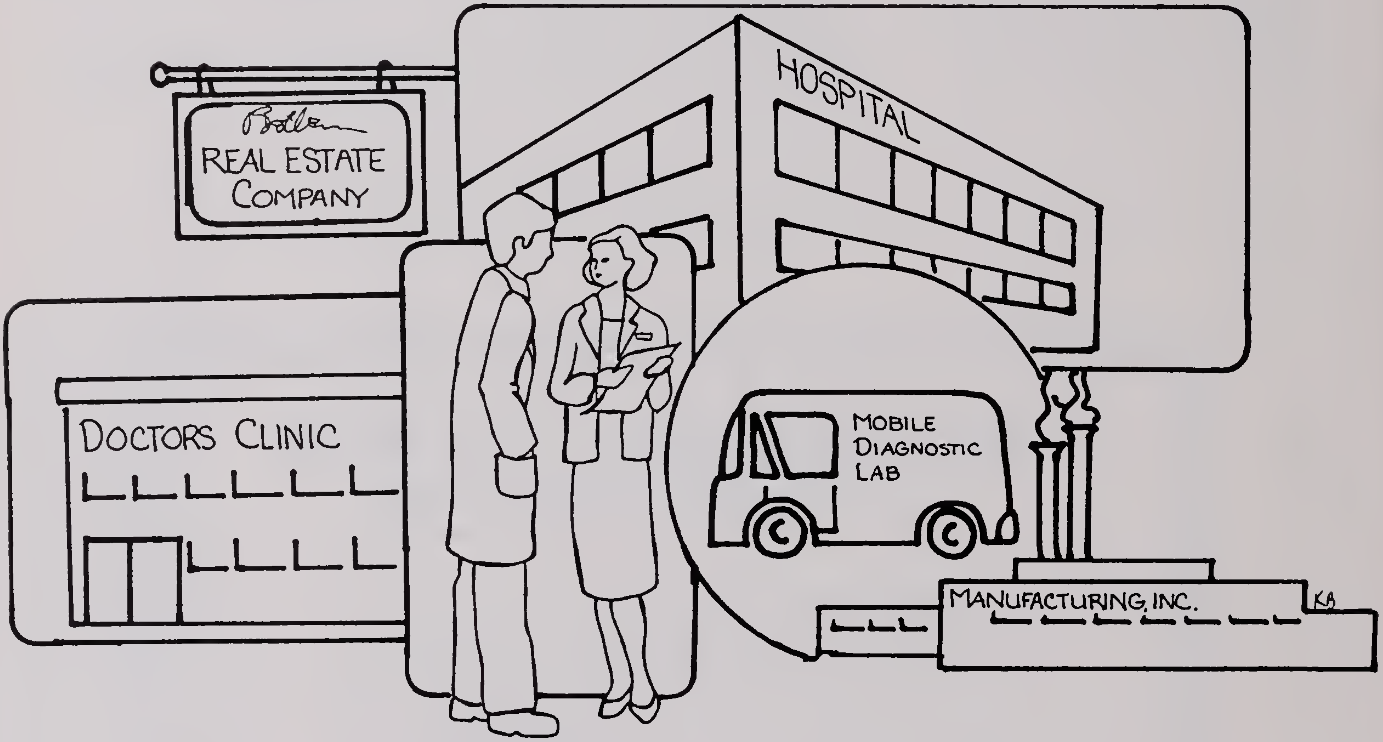

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# Maintaining Quality in a Competitive Era

Webster's defines quality as a degree of excellence or superiority in kind. Clearly, we are living in an era of concern over quality. We are bombarded with messages about quality. Terms such as "quality of life" are used to rate cities and states. Quality is "job one," claim the Ford commercials.

Businesses, particularly in the manufacturing sector, employ quality control specialists to ensure the quality of the finished product.

Medicine has its own concerns over quality. Indeed, the medical profession has always striven for high-quality medical care, but the concern and the attempts to establish criteria for measuring quality medical care have reached a new peak. The medical journals, health care analysts and consultants, and physicians are all analyzing quality.

To gain greater insight into the wave of concern over quality, I conducted my own small survey of consumers in my local community. I found to most people quality medical care means that their physician is using appropriate medical technology to diagnose and treat their medical condition while giving appropriate attention to cost. Yet, the medical community itself is struggling to define quality medical care. So far, its focus has been on three areas: process, structure, and outcome.

Currently, most attention is being directed at studies of medical outcomes. The Minnesota Blue Cross/Blue Shield Medical Illness Severity Grouping System (MedisGroups) is one promising method of measuring outcomes. This system uses rigid criteria to measure outcomes, then creates a database for analysis and comparison.

I believe the real reason for this widespread interest in quality is the rationing of health care caused by policymakers' concern over rising costs. Health care costs escalated rapidly in the 1960s with Congress's creation of Medicare. Regulatory efforts to control these costs through health planning, utilization review, and rate-setting produced disappointing results.

Today, competitive market factors are supposed to control rising health care costs. The competition is not between physicians; it is between institutions and businesses such as large employer groups, health care plans, and hospital networks. A consumer orientation is required in this competitive environment. And, the renewed interest in quality patient service is one result of the competition between hospitals.

Another example of the service orientation spawned by the competitive era is the Mayo Clinic's move to the Sun Belt. By opening clinics in Florida and Arizona, Mayo has moved closer to a large number of patients. It has also introduced a new competitive element — the expansion of large competing clinics in smaller clinics' territories.

Our MMA Ad Hoc Committee on Competition points out that where once there were two players involved in health care decision making now there are four: the patient, the physician, the hospital, and the managed care delivery system. Physician decision making is complicated and restricted by these complex contractual controls.

Not only have the prepaid health plans created a competitive environment, they have also affected the quality of medical care. But like many people, I am disappointed with the prepaid systems. They simply have not done what they promised to do — deliver quality care at a lower cost. Instead, their expensive large-scale marketing efforts required to attract enrollees have decreased the dollars available for health care delivery. And now the plans are withdrawing from rural areas, where they once entered with great promise.

Medical technology also is affected by quality and cost concerns. "Technology in the Competitive Market," a white paper published in February 1987 by the National Committee for Quality Health Care, defines medical technology to include all drugs, devices, diagnostic tests, and medical and surgical procedures that prevent, diagnose, and treat disease. Technological advances in the last two decades are the culmination of many small and diverse discoveries. Cost containment efforts threaten to restrict such work in the next ten years. These pressures may create an environment in which technologies that do not produce clear and immediate cost savings will not be pursued.

In the end, competition may result in the rationing of health care and a reduction in the advances of medical technology, because health care decisions will be based on dollars rather than on quality.

# 401(K) Plans

## Retirement Supplements and the New Tax Law

*Steven D. Carter, MMA Chief Executive Officer*

For some time, financial administrators have supported 401(K) plans as a means to defer income and supplement a retirement plan. However, a recent article in *Physicians Financial News* argues that the new tax law makes adding a 401(K) plan to a defined-benefit plan much less attractive. Highlights in the article point out that:

- The maximum amount of salary that can be deferred is $7,000 (cut from the previous $30,000) and new nondiscrimination rules are stricter for 401(K) plans than for other kinds of qualified retirement plans.
- By adding a 401(K) plan, you may incur additional costs and administrative problems without enhancing future benefits—and possibly, reducing them.
- New rules limit a firm's tax-deductible contribution to both a defined-benefit and a defined-contribution plan—like a 401(K) plan—to 25 percent of the eligible payroll. If you already make a contribution to a defined-benefit plan that is in excess of this 25 percent ceiling, adding a 401(K) plan would reduce the amount of money you can deposit in your defined-benefit plan. However, you also need to evaluate the plan's turnover, mortality, and the market performance of the trust. None of these factors alone controls the plan's structure.
- In many small group practices, the defined-benefit plan may be top-heavy. Physicians in these plans may be able to participate in 401(K) plans, but they would need to provide employees with extra contributions. Generally, a plan is top-heavy if the physician-owners have accrued more than 60 percent of the plan's assets. You may not be eligible to participate in a 401(K) plan if they have already accrued the maximum defined benefit.
- Similarly, physician-owners who already have another kind of defined-contribution plan, may find that setting up a 401(K) plan does not improve their retirement savings. The firm's tax-deductible contribution to a new 401(K) plan may reduce how much could be contributed for each participant in the current plan. Participants would have to reduce the amounts being put into an old plan if they wanted to also have a 401(K) plan.
- Under both plans, no individual could receive more than the current ceiling of 25 percent of compensation or $30,000 a year, whichever is less.
- Estimates for setting up a 401(K) plan for a small group range from around $1,500 to $2,000. The annual costs of administering such a plan run around $1,500 to $3,000, depending on how often reports are requested, how many investment options are offered, and how often participants can shift their savings. Filing annual tax returns and making sure that the plan is in compliance with federal regulations also add to the costs.
- Also of serious concern in evaluating 401(K) plans are the new nondiscrimination rules, some of which are more strict for 401(K) plans than for other qualified retirement plans. The amount of compensation that management employees may defer in 401(K) plans depends on how much all other employees defer. However, the new tax law narrowed the gap between the amounts these two groups can defer. Higher-income individuals are able to put in two times the amount of the lower-paid employee.
- The new law also widened the definition of highly compensated employees. More people are now in the highly compensated group, which will require more participation from the lower-paid group.
- To ensure that lower-paid employees defer enough income, management may have to offer matching contributions. Twenty-five cents to fifty cents on the first dollar, up to the first 4 to 6 percent contributed, is a general range. From a physician's perspective, however, the matching contributions may be too expensive.
- Finally, three new provisions may discourage less highly compensated employees from deferring income in a 401(K) plan. One, many early withdrawals now are subject to a 10 percent penalty tax. Two, unless you use a new or modified plan loan to buy a principal home, interest payments will be subject to the new phase-out of consumer interest. Three, under the new rules for hardship withdrawals, employees can only withdraw the amounts that they have deferred. The fund's earnings and the employer's matching contributions are not eligible for withdrawal.
- 401(K) plans may still be a good supplement to retirement and a tax deferred saving. However, review your options carefully.

# Taxes and The IRS

Since the Tax Reform Act of 1986, *Medical Economics* has reported on numerous provisions of the new law. The following excerpts summarize some of those changes:

## New Rights

The IRS recently introduced a "taxpayer rights" section into its official manual to help cut through red tape and minimize premature property seizures and bank accounts levies. You need to be prepared only to show your cancelled checks or other documentation establishing that no money is owed.

## Lavish Meals?

There are new limits on deductions for all meals, including the cost of meals eaten away from home. For tax years beginning after December 31, 1986, only 80 percent of the cost of a meal is deductible. So, even if you are out of town attending a seminar and you dine alone, 20 percent of the cost of your meal will not be deductible. The new law even goes as far as to say that a deduction can be disallowed if the meal is "lavish and extravagant." The IRS recently said that it will issue rules to serve as guides in determining what is "lavish and extravagant."

## Former Employees and Health Insurance

If you fail to offer former employees extended health insurance, you may face severe penalties. Under federal law, businesses with 20 or more employees must offer coverage to workers and their dependents for up to a year and a half after employment ends. The IRS has now proposed that employers who fail to comply—for even one day—won't be able to write off the cost of their group insurance plan as a business expense for that year. Further, health benefits for that business would be treated as taxable income.

## Tough Penalty and Retirement Plans

If you refuse to pay a tax deficiency, the IRS can seize your funds in a Koegh or corporate retirement plan. And you'll pay tax on the amount seized, just as you would if you had made a withdrawal. Since the IRS can also levy a 10 percent penalty if you make a withdrawal before you are 59½, you need to amend your plans to add protective clauses and early retirement exceptions.

## Possible Exemption

The new tax act eliminates the federal deduction for state and local sales taxes. However, if Minnesota would redefine the state's levy on cars as a property, it would remain deductible on federal returns.

## No Tax for Libel or Slander

Historically, damages for libel or slander to your professional reputation, were considered taxable income. Only awards for damages to personal reputation were tax-free. However, a U.S. Court of Appeals recently ruled that there's no justification for taxing either type of defamation award.

## New Tax Form for Mortgage Interest

With complex rules for mortgage-interest deductions in effect, you may have to fill out a special and complicated form in order to calculate them on your next tax return. The IRS draft Form 8598 would be required if you refinanced your home or obtained a second mortgage or home-equity loan after August 16, 1986.

## Children and Tax Reporting

Starting this year you must report Social Security numbers for children 5 years or older. To get numbers, ask you local Social Security office for Form SS-5. When you return the forms, send along your children's proofs of age, identity, and citizenship. Failing to report could carry a $50 penalty.

## Easier Tax Form for Solo Physicians

The IRS has eased the reporting requirements for sole participants in Keogh and corporate pension plans. Up to now, complex Form 5500-C had to be filed two out of every three years. But for 1986 and each year thereafter, solo M.D.s with defined-contribution plans can submit the new Form 5500EZ, comprised of only 12 questions. Those with defined-benefit plans must also file Schedule B, which asks for actuarial information.

## Time to Settle?

To reduce its backlog of tax-shelter disputes, the IRS is eager to settle cases from 1982 or earlier tax years. Though the agency may not give in on the amount of taxes or penalties it claims you owe, a settlement would save interest. And any interest you would have to pay will be deductible.

## An IRS Victory Can Pay Your Court Costs

Taking the IRS to court might be more tempting now. The new tax law has permanently reinstated an expired provision allowing you to recover the cost of a court victory. In cases initiated after December 31, 1985, any court can award a reasonable amount for legal expenses so long as your net worth is no greater that $2 million. However, to be granted an award, you also have to prove that the IRS's position was "not substantially justified."

## No Tax Breaks for Malpractice Insurance Trusts

A malpractice insurance trust set up by professional corporations may be less expensive than commercial coverage, but the trusts will not count as tax write-offs. The Tax Court ruled last year that contributions to such trusts aren't insurance premiums, so they can't be deducted like other business expenses. And unless the corporation gives up control of the trust's assets, it must pay tax on any income it produces.

## THE ETHICS OF AIDS CARE

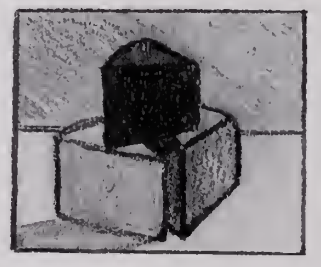
It is unethical for physicians to refuse to treat patients infected with the AIDS virus, according to the AMA's Council on Ethical and Judicial Affairs. The council noted that "the tradition of the American Medical Association, since its organization in 1847, is that when an epidemic prevails, a physician must continue his labors without regard to the risk of his own health."

## TB ON THE RISE

Tuberculosis, considered by the general public to be a disease of the past, is on the rise in the United States and is the leading killer among infectious diseases in the world, according to medical researchers at the National Jewish Center for Immunology and Respiratory Medicine.

## HCFA AND REVALUATION

Proposed Medicare rules would limit revaluation of hospital and nursing home assets. New owners or operators could not base investment return on the price they paid but would have to use the original price of the facilities sold. Regulations would not allow Medicare to reimburse for legal fees, the cost of appraisal, accounting and administrative work, travel, or feasibility studies. The new rules would also apply to sale and leasebacks. State Medicare programs would have to set rules as strict or stricter than those from HCFA.



## QUALITY QUEST

Quality Quest, a Minnesota InterStudy venture, has received Medicare contracts to review care in HMOs in Illinois and Missouri. Quality Quest is the only non-peer review organization to be awarded such contracts.

## SECOND OPINIONS

HCFA has drafted a list of 13 surgical procedures from which peer review organizations (PROs) would select 10 for intensified review. The draft regulation includes: cataract surgery, pacemaker insertion, and coronary artery bypass. PROs would scrutinize records to determine whether the procedure is necessary and order a second opinion if necessary. Medicare would not pay for unapproved procedures unless a second opinion is obtained. The proposal would mean increased paperwork and reduced reimbursement.

## HARVARD RVS

Harvard University's resource-based relative value scale (RVS) for physician payments will measure time, intensity, practice costs, including malpractice premiums, and the cost of specialty training. The Harvard RVS, to be completed in the summer of 1988, will include a survey of physicians and will address Medicare physician payment reform.

## PHYSICAL THERAPY

Preventing physicians from hiring physical therapists limits competition. The Federal Trade Commission, commenting on a New Jersey proposal to do so, said it would deny consumers the benefits of full range of service, price, and quality options.

## MEDICARE SECRETS

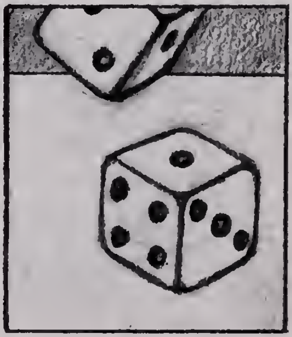
A group of physicians lost in their attempt to obtain a copy of the "secret" guidelines Medicare uses to determine which claims should be automatically rejected. An appellate court ruled that disclosure of the guidelines might enable doctors to fit their claims into categories that are automatically paid.

## AIDS TESTING

If the courts ultimately rule that mandatory testing for AIDS is legal, health care workers are likely to be the first to be screened. Eighty percent of individuals polled by Gallup believe that health care personnel should be tested for AIDS, and 86 percent want full disclosure.

## HMOs DROP OUT OF MEDICARE

More than 29 health maintenance organizations (HMOs) have quit Medicare's risk contract and more withdrawals are likely. Plans that dropped out cared for about 50,000 Medicare beneficiaries. Another 21,000 people may lose HMO coverage if participating HMOs proceed with plans to trim services. Although many of the plans that discontinued service are small, serving fewer than 1,500 Medicare patients, they serve a generally isolated, rural population.



### WHO IS A "PHYSICIAN?"

The Kansas attorney general has agreed with the state medical society that chiropractors aren't "physicians." This overruled a 1984 decision by the State Board of Healing Arts that chiropractors could use the title "physician" in conjunction with the term "chiropractic." The medical society argued that "physician" historically has meant someone licensed to practice medicine and surgery . . . and the court agreed.

### PRACTICE STANDARDS

Hoping to curb malpractice suits, the American Academy of Pediatrics has published standards for diagnosing and treating meningitis, the second leading cause of claims against pediatricians. Two years ago, anesthesiologists at 10 Harvard University teaching hospitals became one of the first specialty groups to publish practice standards. Since then, the insurance carrier reclassified them as lower-risk and may further reduce their malpractice premiums.

### PRO HEARINGS

Now that the Federal Department of Health and Human Services has agreed to modify PRO procedures, physicians will have more protection during disciplinary proceedings. If you are accused of bad practice, you will be allowed to have an attorney at your hearing and call expert witnesses. If you are suspended from Medicare, the PRO will no longer publish a notice in a local newspaper but will allow you to explain the situation to patients in private.

### LIVING WILLS

Last year three more states passed living will laws, bringing the total to 38, plus the District of Columbia.

### DRG HELP

A coding/DRG reimbursement consulting service is offered by the Commission on Professional & Hospital Activities (CPHA). On-site visits include: meetings with the hospital's data policy personnel; an audit of at least 100 medical records; referral of questionable DRG assignments to a group of physicians for confirmation; a record and coding analysis, and flow chart recommendations. For information call CPHA, (800) 521-6210.

### HELP FOR RURAL HOSPITALS

Congress is considering legislation drafted by Sen. Dave Durenberger to encourage rural hospitals to convert to ambulatory-care centers, surgicenters, or offices coordinating home care. The measure would provide grants of up to $50,000 for two years to hospitals with fewer than 100 beds to help finance remodeling. Since participating hospitals would have to arrange for patients' access to inpatient care elsewhere, the conversions could create a feeder system benefiting other underused hospitals.

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*Source:* Medical Economics

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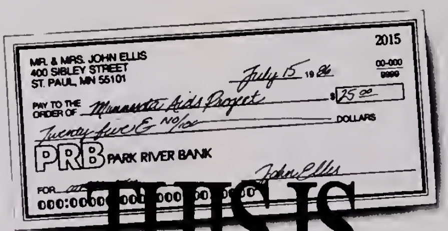

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## JANUARY 1988

15-16 **The First Annual OB/GYN Scientific Conference** Hennepin County Medical Center and Hennepin Faculty Associates; Hyatt Regency Hotel, Minneapolis, Minnesota. CONTACT: Eugenia Kassar, CME Director, Office of Academic Affairs, Hennepin County Medical Center, 701 Park Avenue, Suite 4220, Minneapolis, Minnesota 55415; (612) 347-2075.

## FEBRUARY 1988

1-5 **Current Concepts in Cardiovascular Diseases** Mayo Clinic/Mayo Foundation; Buena Vista Palace, Orlando, Florida. CONTACT: Rita Kunz, 200 First Street SW, Rochester, Minnesota 55905; (507) 284-2509.

10-14 **Basic Review and Recent Advances in Head and Neck Surgery** Mayo Clinic/Mayo Foundation; Hyatt Orlando, Orlando, Florida. CONTACT: Rita Kunz, 200 First Street SW, Rochester, Minnesota 55905; (507) 284-2509.

12-13 **New Drugs and New Uses for Old Drugs** Park Nicollet Medical Foundation; Naegele Auditorium, Park Nicollet Medical Center, Minneapolis, Minnesota. CONTACT: Elaine Anderson, Director of Professional Education, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3703.

22-26 **Selected Topics in Internal Medicine** Mayo Clinic/Mayo Foundation; Sheraton Scottsdale, Scottsdale, Arizona. CONTACT: Rita Kunz, 200 First Street SW, Rochester, Minnesota 55905; (507) 284-2509.

FEB 23-MAR 12 **SouthAmericaAir/SeaCruise aboard the Royal Viking Sea** North Central Medical Conference. CONTACT: Harold Brunn, North Central Medical Conference, 1845 Hampshire Avenue, Suite 200, St. Paul, Minnesota 55116; (612) 698-1888.

FEB 23-MAR 12 **South Pacific/Australia, New Zealand, including Great Barrier Reef** North Central Medical Conference. CONTACT: Harold Brunn, North Central Medical Conference, 1845 Hampshire Avenue, Suite 200, St. Paul, Minnesota 55116; (612) 698-1888.

24-25 **Geriatric Drug Therapy Symposium** Office of CME, University of Minnesota; Radisson University Hotel, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

26-27 **Preventing Myocardial Infarction** Office of CME, University of Minnesota; Hyatt Regency Hotel, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

FEB 29-MAR 4 **Neurology in Clinical Practice** Mayo Clinic/Mayo Foundation; Kauai Hilton, Lihue, Kauai, Hawaii. CONTACT: Rita Kunz, 200 First Street SW, Rochester, Minnesota 55905; (507) 284-2509.

## MARCH 1988

7-11 **Medical Update 1988** Office of CME, University of Minnesota; Sister M. Innocent Hughes Education and Conference Center, Ft. Lauderdale, Florida. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

11-12 **Pediatric Update** Park Nicollet Medical Foundation; Naegele Auditorium, Park Nicollet Medical Center, Minneapolis, Minnesota. CONTACT: Elaine Anderson, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3703.

11-13 **Neurology Board Review** Office of CME, University of Minnesota; Health Sciences Center, University of Minnesota, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

14-16 **Gynecologic Surgery - 1988 Update** Mayo Clinic/Mayo Foundation, Wyndham Hotel, Palm Springs, California. CONTACT: Rita Kunz, 200 First Street SW, Rochester, Minnnesota 55905; (507) 284-2509.

21-25 **Geriatric Medicine Review** Office of CME, University of Minnesota; Health Sciences Center, University of Minnesota, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

## APRIL 1988

7-8 **Allergy and Clinical Immunology** Office of CME, University of Minnesota; Mayo Auditorium, University of Minnesota, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

11-12 **Annual Ophthalmology Course** Office of CME, University of Minnesota; Holiday Inn Downtown, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

11-13 **Bone and Soft Tissue Tumors Course** Mayo Clinic/Mayo Foundation; Hyatt Orlando, Orlando, Florida. CONTACT: Rita Kunz, 200 First Street SW, Rochester, Minnesota 55905; (507) 284-2509.

14-16 **Pediatric Days** Mayo Clinic/Mayo Foundation; Mayo Clinic, Rochester, Minnesota. CONTACT: Rita Kunz, 200 First Street SW, Rochester, Minnesota 55905; (507) 284-2509.

15 **Reproductive Ethics: Beyond Baby M** Office of CME, University of Minnesota; Radisson University Hotel, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

15-16 **11th Annual Update in Clinical Cardiology** Abbott Northwestern Hospital; Radisson Plaza Hotel, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

19 **Hematology in Physician Office Laboratories and in Clinics** Office of CME, University of Minnesota; Health Sciences Center, University of Minnesota, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

22-23 **Colorectal Diseases** Office of CME, University of Minnesota; Holiday Inn Downtown, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

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**Durenberger** from page 8

In the same way, we're approaching Medicare's high-priced procedures, 900 of them at last count. We're trying to level off the mountains tops, so we can be fair to conservative practitioners. In the past, we would take 10 percent off both the mountains and valleys, but we found that was discriminatory against conservatives.

But we have discovered problems. Many of these mountains are in L.A., San Francisco, Miami, New York City, Boston, and Chicago. In those cities the big old hospitals are doing a disproportionate share of our country's medical education and serving a disproportionate number of refugees, illegal immigrants, and the poor. Of course, all the hospitals want Medicare at the rate of $325 per month. They want Medicare to continue the kind of reimbursement it had provided those mountain-top hospitals in the old days.

Those of us in the hinterlands, who are trying to be conservative, say we pay the same amount into Medicare, and others get three times as much out.

MM *What about this business of reducing fees by 15 percent for common surgeries, such as cataract surgery, hip replacement, coronary artery bypass, hysterectomies, and TURs.*

**DURENBERGER** Those are the mountain tops I was talking about. HCFA was asked to identify the high-priced surgeries. By that they mean not just the ones that cost the most, they mean the ones for which there's the greatest variation between L.A., New York, Rochester, Montevideo. So far, they've identified 900. You've just mentioned a few of the high-volume ones. HCFA had recommended that we reduce fees for all 900 procedures by 15 percent.

I gave them the valley and the mountain example, and I said that isn't fair to the guy who's in the valley because he's been holding his costs down. Why stick it to him? The decision was to make the 15 percent cut but not where costs already were at or below the national average. So only people above the national average are going to get a cut.

Also on the positive side, we have had success bringing rural hospital reimbursement and family practitioner reimbursement closer to urban hospital and specialty reimbursement for physicians.

MM *How's your rural health initiative going?*

**DURENBERGER** It's doing extremely well in the Senate and very well in the House. It has grudging support from the Office of Management and Budget. In the Senate, we're aiming for a 4.2 percent increase for rurals and a 1 percent for urbans. On the House side, these figures are 2 percent and 1 percent.

On both sides we have a more substantial increase under Part B for family practitioners and rural physicians than we do for the subspecialists and for urban hospitals. We also have my $50,000 grant program for the small hospitals. (See "Help for Rural Hospitals," page 45.) This has been approved in the Senate. Plus, we have proposed a variety of changes to mental health coverage in rural areas.

One issue that's going to be big in Minnesota is raising the reimbursement for the TEFRA risk contract for programs like PHP, SHARE, MedCenters, and HMO Minnesota in rural Minnesota.

MM *Just a few weeks ago, these HMOs announced they were pulling out of rural Minnesota because of the low Medicare payments to senior health plans. In Minnesota cities, payments range from $200 to $260, and in the country, from $140 to $190. You're trying to narrow these discrepancies?*

**DURENBERGER** Yes. And that's what I predicted would happen. There's no way these plans could do business anywhere in rural Minnesota. Not unless the hospitals or doctors take a major cut.

In rural Minnesota, hospitals, in particular, have their backs against the wall. They are saying no to the HMOs. As a result, HMOs are losing their shirts.

MM *The feeling of paranoia among hospitals and doctors is not restricted to rural Minnesota. The Twin Cities are experiencing the great medical crash of 1987. Hospitals are running out of money, doctors are rebelling, purchasers and patients are restive, and many, including myself, are saying the noble Minnesota experiment has failed.*

**DURENBERGER** The question is: Is Minnesota the laboratory for the future? The answer is yes. We have to hang in there and not say we've failed.

I've reached some tentative conclusions about the reasons for the pain in the Twin Cities. First is overhead, and second is overutilization. We still haven't cut overhead in hospitals in the Twin Cities to keep up with the substantial reduction over the last ten to twelve years in inpatient stays and the average length of stay in our hospitals. We have an overhead problem that we've been solving in the usual way — joint purchasing to joint operations and mergers. But all the extra beds and all the extra capacity still aren't going away.

Second, we have an overutilization problem because of the risk contracts. The prepaid model with its preventive incentives is supposed to keep people healthy and reduce utilization of unnecessary services. But what happened? HMOs went out there to compete with each other, they tried to sign up the bulk of the market by promising low rates and high service. In doing so, they exacerbated an existing "entitlement" mentality on the part of elderly. The plans implied that for $14.95 or $39.95 a month you can have anything you ever wanted. Instead of HMOs curbing utilization, giving people only what was appropriate, they invited the public to overutilize, and they turned to doctors and hospitals to cut use. Conservative doctors and hospitals did cut use, but that meant they cut their incomes by 25 to 35 percent. Non-conservative practitioners simply found ways to see more people, and nobody saved anything.

MM *How does one dampen demands by the elderly who come to HMOs with expectations of low premiums, high benefits, and unlimited access? How do you contain that demand?*

**DURENBERGER** I think there are three ways to do it.

One, you've got to be honest with both the elderly and the employed population that there are limits on access to the medical system.

Two, you have to put a stay-healthy plan in place. That requires an attitudinal change. We have to put stay-healthy measures into Medicare. So far, Medicare hasn't been willing to do that. And one of the reasons is that employers aren't willing to do it in their plans either. Big companies in the Twin Cities have to promote stay-healthy measures and they have to tell their employees they aren't going to be able to use some of the services they want to use.

Third, you have to reward the HMOs that curb utilization. How do you reward HMOs for reducing those costs? How are are you going to shift the burden of utilization restrictions from the provider to the health plan? We haven't solved that one.

MM *HCFA recently announced it was going to raise funds provided TEFRA Medicare plans by 13.6%. I interpret this largesse as endorsement of the Medicare HMO strategy.*

**DURENBERGER** It's an endorsement of the competitive medical plan approach. It isn't just HMOs. We started with HMOs, but we hope to expand it to any kind of competitive plan. But we have an incongruity: our administration says: "Yes, this is our way of endorsing the capitated competitive medical plans." But the same government is permitting overutilization by beneficiaries, not putting enough money into peer review so it can work properly, and deliberately holding down costs of expanding these competitive medical plans into non-urban areas. These actions are directly contrary to the administration's endorsement of the competitive medical plan approach.

MM *Leland Kaiser, a futurist, has remarked that we are in the "white water period" of making the transition from a fee-for-service system to a more corporate approach. If this turbulence doesn't clear and there's continued chaos, do you see a push for a national health insurance?*

**DURENBERGER** I see the administration's endorsement of the competitive medical plan as national health care or national health insurance. It's an endorsement of the concept that every person in America ought to have a plastic card entitling him to a health plan.

As for "white water," states like New York and Massachusetts are probably in the early rapids, and states like California and Minnesota have hit more severe turbulence. It's that unevenness across the country that bothers me.

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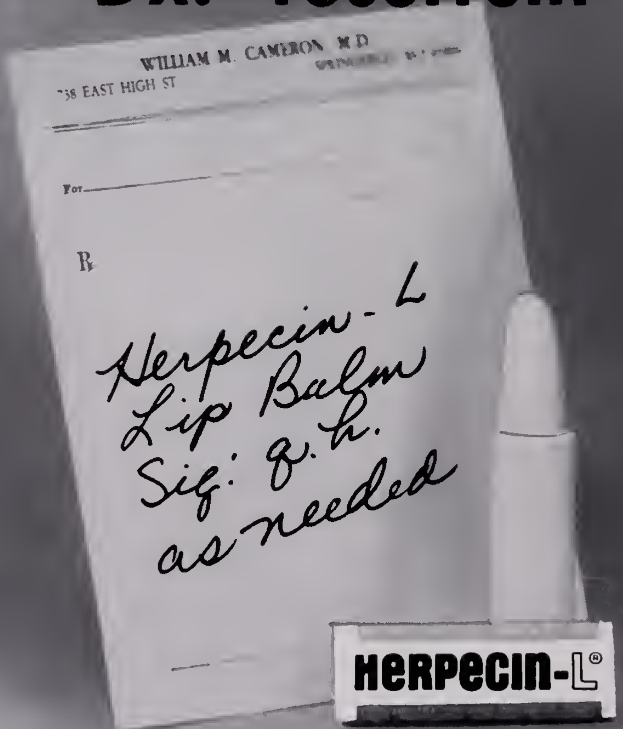

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I dislike seeing conservative doctors and hospitals being punished for doing the right things. These doctors aren't taking out all of the big full-page ads and trying to beat the system. Those of us from Minnesota and California tell leaders in HCFA that they're not treating everybody equally. They have to keep adjusting the system, they have to spend money to make the money to keep competitive reform going. In the end, the price will be worth it.

MM *So the uneveness from one section of the country to another bothers you.*

DURENBERGER It bothers me a great deal. In my experiences, I see the terrific things that Minnesota hospitals and practitioners have done to cut utilization, to curb costs, and to make competition and choice work. I see everybody else taking advantage of that. Businesses sit around enjoying the advantages of more ambulatory surgery centers, more alternatives, and more education. Yet they complain about how much pain there is for them because they don't see other parts of the country experiencing the same pain.

MM *Speaking of pain, I gather the catastrophic health bill will go through to relieve financial pain for the elderly. What's your attitude toward that bill?*

DURENBERGER My attitude is: if you don't put catastrophic coverage into Medicare because the over 65 or the disabled are unprotected from financial catastrophe, you do it because they're wasting too much of their income or assets buying that protection on the outside. In the absence of a guarantee against financial catastrophe in the basic Part A and Part B of Medicare, the market for supplemental insurance is taking advantage of the uninformed elderly buyer.

MM *So catastrophic health insurance is just a big Medigap policy?*

DURENBERGER Yes, if we can get better supplementals than the private market. Right now, most of the elderly buy a variety of coverage for their deductibles and their copays principally because they fear catastrophe, not because it's smart business. We're trying to give them the knowledge so when they elect their Part B option, they're getting catastrophic protection. Knowing that everything over $1,700 or $1,850 a year is paid, they can sit down with an insurance agent and figure out what it is they really need based on their income. What is the maximum out-of-pocket expenditure they can undertake? People are buying off of television screens today, not buying from legitimate health plan salespersons.

MM *What do you see for the immediate future for the catastrophic bill?*

DURENBERGER We will put catastrophic coverage in Medicare to reduce the cost and raise the efficiency of the supplemental insurance. The approved Senate bill, like the House bill, requires that the catastrophic coverage be financed partly through a supplemental premium based on an income test and partly through an additional across-the-board increase in the Part B premium. In other words, everybody pays $4 a month to get catastrophic coverage, and, in addition, 40 percent of the beneficiaries once a year pay more than that based on a percentage of their adjusted gross income. This is the first time ever for income-testing a program of social insurance.

The other major benefit is the addition of a prescription drug provision to Part B. The drug benefit is to be paid solely by the beneficiaries through additional increases to the basic Part B premium.

Under the Senate bill, the drug benefit would be phased in over six years, starting in three years with only immunosuppressive and chemotherapy drugs, and then in the fourth year, cardiovascular, diarrhetics, or other comparable drugs. Only in 1993 do we go to coverage for all prescription drugs.

MM *Do you expect radiologists, anesthesiologists, and pathologists to come under DRGs in 1989?*

DURENBERGER No, we're not going to do that. We will deal with radiology, anesthesiology, and pathology when we deal with other medical specialties. We'll begin to deal with the problem when we look at the research and recommendations in 1988. We may dismantle the current Part B reasonable, customary, and prevailing system. It discriminates against conservative practitioners. We may substitute for it a relative values scale reimbursement system that takes into account cognitive as well as procedure specialists.

MM *That's the Hsiao study from Harvard?*

DURENBERGER Yes, that's what Dr. William Hsiao and others are doing. We can expect an act early in 1989 based on these studies.

MM *Shall we close with a political question? Why should physicians vote for you in this upcoming Senate race?*

DURENBERGER That's a terrific question. What Dave Durenberger is trying to provide through leadership is consumer choice in health care. When I came to the Senate, physicians were being either priced out of business or priced into national health insurance. My objective was to stop that. I think we've made some radical changes.

There isn't anybody who doesn't agree now that there was room for improvement in the system. The question is whether we're over-improving; how come it hurts so much, and how come the hurt doesn't seem to be evenly distributed?

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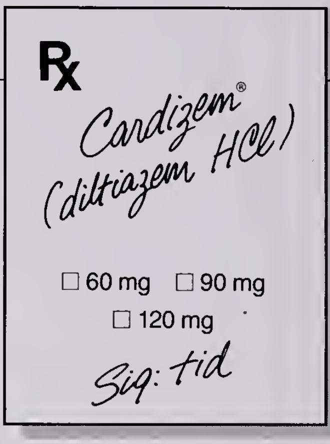
diltiazem HCl/Marion

*Usual maintenance dosage range: 180-360 mg/day*



℞
Cardizem®
(diltiazem HCl)

☐ 60 mg ☐ 90 mg
☐ 120 mg

Sig: tid

**Brief Summary**
*Professional Use Information*

**CARDIZEM®**
*(diltiazem HCl) 30 mg, 60 mg, 90 mg, and 120 mg Tablets*

**CONTRAINDICATIONS**

CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, and (3) patients with hypotension (less than 90 mm Hg systolic).

**WARNINGS**

1. **Cardiac Conduction.** CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1,243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.
2. **Congestive Heart Failure.** Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt).
   Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.
3. **Hypotension.** Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.
4. **Acute Hepatic Injury.** In rare instances, significant elevations in enzymes such as alkaline phosphatase, CPK, LDH, SGOT, SGPT, and other symptoms consistent with acute hepatic injury have been noted. These reactions have been reversible upon discontinuation of drug therapy. The relationship to CARDIZEM is uncertain in most cases, but probable in some. (See PRECAUTIONS.)

**PRECAUTIONS**

**General.** CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any new drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.

**Drug Interaction.** Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)

Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities. In healthy volunteers, diltiazem has been shown to increase serum digoxin levels up to 20%.

**Carcinogenesis, Mutagenesis, Impairment of Fertility.** A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.

**Pregnancy.** Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.

There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.

**Nursing Mothers.** Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk may approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infant feeding should be instituted.

**Pediatric Use.** Safety and effectiveness in children have not been established.

**ADVERSE REACTIONS**

Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.

In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.

The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences as well as their frequency of presentation are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%). In addition, the following events were reported infrequently (less than 1%).

| | |
|---|---|
| Cardiovascular: | Angina, arrhythmia, AV block (first degree), AV block (second or third degree — see conduction warning), bradycardia, congestive heart failure, flushing, hypotension, palpitations, syncope. |
| Nervous System: | Amnesia, gait abnormality, hallucinations, insomnia, nervousness, paresthesia, personality change, somnolence, tinnitus, tremor. |
| Gastrointestinal: | Anorexia, constipation, diarrhea, dysgeusia, dyspepsia, mild elevations of alkaline phosphatase, SGOT, SGPT, and LDH (see hepatic warnings), vomiting, weight increase. |
| Dermatologic: | Petechiae, pruritus, photosensitivity, urticaria. |
| Other: | Amblyopia, dyspnea, epistaxis, eye irritation, hyperglycemia, nasal congestion, nocturia, osteoarticular pain, polyuria, sexual difficulties. |

The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: alopecia, gingival hyperplasia, erythema multiforme, and leukopenia. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.

Issued 9/86

See complete Professional Use Information before prescribing

**References: 1.** Schroeder JS: Mod Med 1982;50(Sept):94-116. **2.** Cohn PF, Braunwald E: Chronic ischemic heart disease, in Braunwald E (ed): Heart Disease: A Textbook of Cardiovascular Medicine, ed 2. Philadelphia, WB Saunders Co, 1984, chap 39. **3.** O'Rourke RA: Am J Cardiol 1985;56:34H-40H. **4.** McCall D, Walsh RA, Frohlich ED, et al: Curr Probl Cardiol 1985;10(8):6-80. **5.** Frishman WH, Charlap S, Goldberger J, et al: Am J Cardiol 1985;56:41H-46H. **6.** Shapiro W: Consultant 1984;24(Dec):150-159. **7.** O'Hara MJ, Khurmi NS, Bowles MJ, et al: Am J Cardiol 1984;54:477-481. **8.** Strauss WE, McIntyre KM, Parisi AF, et al: Am J Cardiol 1982;49:560-566. **9.** Feldman RL, Pepine CJ, Whittle J, et al: Am J Cardiol 1982;49:554-559.

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Please contact: W. Ben Johnson, M.D., at (612) 255-5706 or send CV to: The St. Cloud Clinic of Internal Medicine, Ltd.; 1200 Sixth Avenue North, St. Cloud, Minnesota 56301. 3-3/88

**Family Physician** to join three-physician practice. Beautiful community bordered by the North Shore of Lake Superior and the Boundary Waters Canoe Area. Negotiable income, with incentive. Excellent benefits. Flexible hours, share call. Available summer, 1988. Send CV with references to: Rita M. Plourde, Cook County Community Clinic, Grand Marais, Minnesota 55604; (218) 387-2330. 3-3/88

**Luxury Home on Lake Superior's North Shore:** Two miles from Lutsen downhill and x-country skiing. For rent by week or weekend. Might exchange time for comparable property in warmer climate. Call Jeff at (612) 421-4110. 3-3/88

**Green Bay, Wisconsin:** 28-physician multispecialty group seeking BC/BE physicians in the following specialties: Family Practice, Pulmonology, Pediatrics, ENT, and Anesthesiology. Green Bay is a progressive community with an easy lifestyle, ample outdoor activities, excellent schools and cultural activities. The clinic offers competitive salary and excellent fringe benefits. Please send CV to: P.M. Kindrachuk, Administrator, West Side Clinic, s.c., Box 19070, Green Bay, Wisconsin 54307-9070. 4-4/88

**Unsecured Signature Loans For Physicians:** $5,000-$60,000. No points or fees. Best rates-level payments. Up to six years to repay. For information and application call toll free 1-800-331-4952, MediVersal, Department 114. 4-4/88

**Computer-generated 35mm Slides** at reduced prices. Improve your slide quality with multicolor 35mm slides produced on state-of-the-art equipment. Text slides $6-$9. Additional services available: word processing, manuscripts, manuscript editing. Contact: Lynn Gilsrud, MEDIA PLUS; (612) 342-4322. 6-6/88

**Lot For Sale:** Ultra-secluded 2-acre wooded lot in Eagan, $75,000, call Doug at 557-0314. (R)

**Busy, Multispecialty Clinic Seeking Second Pediatrician:** Excellent location, salary, benefits, etc. Contact: Richard Moore, Administrator, or Randall Warren, M.D., at Mork Clinic, PA, 1833 Second Avenue South, Anoka, Minnesota 55303; (612) 421-3680. 3-3/88

**Internist BE/BC** with or without subspecialty training to join 6 other internists in 17-member multispecialty clinic in Worthington, Minnesota. Liberal vacation and meeting time including stipend. Contact: K.A. Towne, M.D., or John J. Sieve, Administrator, Worthington Medical Center, PA, Worthington, Minnesota 56187; (507) 372-2921. 3-3/88

**For Sale: General Practice** Roseville area. Includes office equipment and leased office space for 1-2 doctors. Call after 6 p.m. for more information (612) 633-9093. (R)

**Director, Occupational Health:** Opportunity to direct growing occupational health service in large midwestern city. Position offers a variety of challenges in conjunction with joint programs in sports medicine and executive fitness. BE/BC with 1-2 years' experience a plus. Competitive salary, incentives, and a negotiable benefits package. Contact: Jim Davis, TYLER & CO., 9040 Roswell Road, Atlanta, Georgia. Call (404) 641-6411. *2-1/88

**Physician:** Board certified/board eligible psychiatrist to work as a staff physician at the Veterans Administration Medical Center in St. Cloud, Minnesota. Position offers: a competitive salary, basic 40-hour week with limited on-call responsibility, malpractice coverage, 30 days paid vacation, and other excellent fringe benefits in a JCAH-accredited, progressive 802-bed medical center with 72,000 outpatient visits per year, adequate staffing including physician extenders and research opportunities. The city of St. Cloud (and the surrounding area) boasts of high-quality family living for its residents who enjoy clean air, a wide variety of four-season outdoor recreational opportunities, excellent hunting and fishing in the "Land of 10,000 Lakes" and outstanding educational facilities, including three universities. Located between the Twin Cities of Minneapolis and St. Paul and the northern lake country. Financial assistance to defer cost of relocation. Equal Opportunity Employer. Write or call: LaBelle Ruehle, Personnel Service, Veterans Administration Medical Center, St. Cloud, Minnesota 56301; (612) 252-1670, ext 241. *2-1/88

**Pediatrician** to join existing two-person practice at the 23-physician multispecialty Winona Clinic, Ltd., in Winona, Minnesota. Located in the beautiful Mississippi River Valley of southeast Minnesota. The community with a 40,000 population trade area is the host of three colleges and a diverse industrial base. Send CV to: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, Minnesota 55987. 3-2/88

**Orthopedic Surgeon** board certified/board eligible to join a 23-physician multispecialty group in Winona, Minnesota. Total patient population draw area of 40,000. Interested physicians please contact: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, Minnesota 55987. 3-2/88

**Group Health, Inc.** Seeks BC/BE associates in: cardiology (non-invasive), internal medicine, family practice, pediatrics, and obstetrics/gynecology. A balanced lifestyle includes the enjoyment of practicing quality medicine in a 30-year-old prepaid, multispecialty setting located in one of the nation's leading metropolitan areas, working in excellent facilities, participating in comprehensive benefits with flexible compensation and teaching opportunities available. Please send CV to: Jerry Hess, Group Health, Inc., 2829 University Avenue SE, Minneapolis, Minnesota 55414. *3-2/88

**Family Practitioner:** Immediate opening for seventh BC/BE FP to join growing 17-M.D. multispecialty clinic. NO CAPITATION. Two hours from Twin Cities. No practice start-up costs. Located in an area of beautiful lakes and trees, and ideal for raising a family. Call collect or write: Curtis J. Nielsen, (218) 829-0354 or 829-4901, PO Box 524, Brainerd, Minnesota 56401. 4-3/88

**Internal Medicine:** Immediate opening for sixth BC/BE IM to join growing 17-M.D. multispecialty clinic. NO CAPITATION. Two hours from Twin Cities. No practice start-up costs. Located near beautiful lakes and trees. Ideal for raising a family. Call collect or write: Curtis J. Nielsen, (218) 829-0354 or 829-4901, PO Box 524, Brainerd, Minnesota 56401. 4-3/88

**Family Physician** to join the medical staff of two family practitioners in a well-established, growing clinic in central Minnesota, along the southern shores of beautiful Mille Lacs Lake. Excellent subspecialty support, progressive salary and fringe benefit program. Call collect, (612) 676-3661, or write c/o Nancy Swenson, Clinic Manager, Mille Lacs Family Health Center, PO Box 53, Isle, Minnesota 56342. 5-4/88

**Family Practice Opportunity:** Two-doctor clinic to add third family practitioner, summer of 1988. Shared call with 9 family practitioner-affiliated clinic. Close specialty back-up. 288-bed facility. 6,000 population community in northwest Twin Cities suburb. Competitive Twin Cities' area salary and excellent benefits. If interested, contact: Dr. James Walker at (612) 421-3680 (office), or 427-5704 (home) or Mr. Richard Moore at (612) 421-3680. 6-5/88

**Internist BE/BC** to join two young internists in growing practice in Michigan's beautiful Upper Peninsula. New local hospital. Campus for Michigan State University Medical School. Community of 15,000. Send CV or call: Drs. Spender and Kuehnl, 218 South 10th Street, Escanaba, Michigan 49829; (906) 786-1563. (R)

**Family Physician Needed:** Immediate need for BC/BE family physician to join two established family physicians in private practice in northwest Iowa community of 5,000. Modern clinic across the street from JCAH hospital. Excellent salary and fringe benefits with partnership opportunity. Locum tenens opportunity available also. Call collect: (712) 324-2511 or contact: Sheldon Family Practice Associates, 206 North 7th Avenue, Sheldon, Iowa 51201. 4-1/88

**Luxury House For Rent In Aspen, Colorado,** 4BR, 2 1/2 baths; located within minutes of five ski areas; exceptionally furnished; with all amenities, stereo, color TV, hot tub, fireplaces, etc. Contact: Dick Huffman at (612) 374-4662. 4-1/88

**Internal Medicine** BC/BE for multispecialty clinic of 17 board certified physicians in family practice, internal medicine, pediatrics, orthopedics, general surgery, radiology, and emergency medicine. Associate physician regular visits in neurology, oncology, otolaryngology, and pathology. Other specialties in town are ophthalmology, and urology. Historic city of 15,000 located 90 minutes south of Minneapolis metro area, 30 minutes from Mankato State University. Well-balanced economy between Kraft, 3M, Pantasote, AMPI, and agribusinesses. Three excellent school systems in addition to a college. Contact: Robert Stevens at the New Ulm Medical Clinic, PO Box 667, New Ulm, Minnesota (507) 354-4101. 4-1/88

**New Ulm, Minnesota:** Family Practice Physician BC/BE for multispecialty clinic of 17 board certified physicians for family practice, internal medicine, pediatrics, orthopedics, general surgery, radiology, and emergency medicine. Associate physician regular visits in neurology, oncology, otolaryngology, and pathology. Other specialties in town are ophthalmology and urology. Historic city of 15,000 located 90 miles south of Minneapolis metro area, 30 minutes from Mankato State University. Well-balance economy between Kraft, 3M, Pantasote, AMPI, and agribusinesses. Three excellent school sysems in addition to a college. Contact: Robert Stevens at the New Ulm Medical Clinic, PO Box 667, New Ulm, Minnesota; (507) 354-4101. 4-1/88

**Southwestern Minnesota Community** of 1,500 is seeking a primary care physician to join another physician in an active family practice (non-HMO) clinic. A 17-bed hospital and 41-bed intermediate care nursing facility are located within the community. Excellent location and potential for personable, aggressive individual in a quiet, rural setting. Preferred BC/BE. Send inquiries to: Timonthy E. Nealy, M.D., Adrian Medical Clinic, Adrian, Minnesota 56110, (507) 483-2845; or Charlotte Heitkamp, Administrator, Arnold Memorial Hospital, Adrian, Minnesota 56110-0279; (507) 483-2668. (R)

**Special:** London, England, fully furnished apartment for rent, payable USA, long or short lease. Exclusive Chelsea area - Cheyne Court. 3BR, 2 bath with shower, living room with TV, dining room, kitchen, and entry. Easy for Gatwick and Heathrow airports. Across from River Thames, close to Victoria Station, the Houses of Parliament, Harrods, King's Road, on bus routes, near underground, and much more. For more information, please call Mrs. John Matthews at (612) 475-2331. (R)

**Family Physician** who enjoys obstetrics wanted to join a progressive family-practice-oriented group in Wadena, Minnesota. This is an excellent opportunity for a self-starter who enjoys work, as the clinical practice is busy. Beautiful area, great community for family. For details contact: Dr. Tim Schmitt, (218) 631-1360, or James Lawson, Administrator, Tri-County Hospital, Wadena, Minnesota 56482; (218) 631-3510. (R)

**Neurology:** Board certified/board eligible neurologist with EEG/EMG evoked potential experience needed to associate with an established practice. Minneapolis-St. Paul area with large teaching hospital privileges. Please send CV to: Minnesota Medicine (815), 2221 University Avenue SE, Minneapolis, Minnesota 55414. 3-11/87

**Pediatrician** wanted to join a 40-physician multispecialty group in northern suburbs of Minneapolis. The appropriate candidate will join the current Pediatric Department of four physicians in a very busy practice. Please address inquiries to: Bradford McKane, Comprehensive Medical Care, PA, 9055 Springbrook Drive, Coon Rapids, Minnesota 55433 or phone (612) 780-7032. (R)

**Family Physician** to join group of board certified family practitioners and one board certified general surgeon. Liberal vacation and education allowances. Competitive salary first year with incentive bonus and full membership after one year. Blue Earth is a community of 4,000 in southern Minnesota with a drawing area of 25,000. 43-bed hospital with adjoining clinic facilities. Complete ancillary support including anesthesiology, radiology, and pathology. Excellent opportunity for an aggressive young family physician. Please contact: Thomas E. Watts, M.D., Blue Earth Medical Center, Ltd., 520 South Galbraith, Blue Earth, MN 56013, Phone: (507) 526-7371, Personal Phone: (507) 526-3177; Marjeane Werner, Clinic Administrator, Phone: (507) 526-7371, Personal Phone: (507) 854-3682. (R)

**Wanted: Family Practitioner, Internal Medicine:** Central Minnesota. Starting salary $55,000. Write: Minnesota Medicine (813), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. (R)

**Pathologist** BC AP/CP, 12 years' experience. Seeks position as associate pathologist for group, or director of smaller laboratory. Available January 1, 1988. Call (218) 736-4976. 3-1/87

**Emergency Medicine:** for emergency physician who possess excellent clinical and trauma skills within a group of seven Emergency Room physicians. Located in beautiful northwest Wisconsin area. Please send CV to: Dr. M. Jaghlit, 900 West Clairemont Avenue, Eau Claire, Wisconsin 54701; or call (715) 839-4404. 6-4/88

**Pediatrician:** BC/BE, to join four busy pediatricians in progressive multispecialty group of 70 physicians. Excellent, active pediatrics unit, level II nursery at nearby community hospital. Referral area 150,000. Liberal financial benefits, high quality of life, and many outdoor recreational opportunities. Send CV and references to: Timothy V. Swanson, M.D., Affiliated Medical Centers, 101 Willmar Avenue SW, Willmar, Minnesota 56201 or call (612) 231-5000. 6-4/88

**Wobegon Remains Intact** (At least its geographical equivalent thrives). Do you need more time to live and breathe while practicing medicine? I desire to share my busy practice with a like-minded BC/BE otolaryngologist. I am located in the midst of a large midwest recreation area; town size approximately 12,000; drawing area 40,000. Located 140 miles from major metropolitan area. University and Mayo Clinic referral available. Please send CV and letter describing lifestyle, work habits, and goals. Mail written response to: David G. Monson, M.D., 1903 South Sixth Street, Brainerd, Minnesota 56401. 3-1/88

**General Surgeon - BE/BC:** Outstanding opportunity for aggressive, young surgeon with a highly profitable, well-established, fee-for-service, multispecialty clinic. 14 physicians on staff. Ready-made practice. Unmatchable guaranteed salary first year, then ownership. New hospital. Wonderful family town with nationally recognized school system and unequalled outdoor recreation possibilities. Telephone calls will not be accepted. Send CV to: John Brust, Mesaba Clinic, 1814 14th Avenue East, Hibbing, Minnesota 55746. 3-1/88

**Family Practice For Sale:** Ideal location in outer metropolitan Twin Cities area. Includes X-ray, modern lab, and all ancillary equipment, which is in excellent condition. Reasonably priced. Ideal situation for family physician who wishes to take over existing practice and enjoy immediate patient load and income. Practice easily expandable, if desired, in this rapidly growing area. Write:

Minnesota Medicine (816), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. (R)

**Urologist Physician** board certified/board eligible to join 23-physician multispecialty group in Winona, Minnesota. Total draw area of 40,000 population. Competitive salary offered. Interested physicians please contact: J.B. Kneusel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, Minnesota 55987. 3-1/88

**Windom, MN - Two BC/BE FPs Needed** to join expanding, aggressive practice. Senior partner with fellowship in geriatrics; junior partner residency-trained. 10-year-old JCAH-accredited hospital. Beautiful 2-year-old, 6-doctor clinic adjoining hospital. Candidates must do OB. Possible academic affiliation. For the best in a progressive practice with the advantages of small-town living contact: Windom Clinic Ltd., James A. Gamache, M.D., Route 2, Box 63B, Windom, Minnesota 56101, or call collect: (507) 831-2550 or (507) 831-2400. 6-4/88

**Twenty-nine Physician Multispecialty Clinic** located in desirable east-central Wisconsin location is seeking board certified or board qualified orthopedic surgeon to round out its services. Lab, X-ray, excellent hospital. Liberal quarantee and benefits. If interested, contact: D.F. Sweet, M.D., Fond du Lac Clinic, S.C., 80 Sheboygan Street, Fond du Lac, Wisconsin 54935. (R)

**Family Practice:** Full-time or part-time physician is needed to assume established practice opportunity in a 7-physician group. We are located 45 minutes from the Twin Cities area. Competitive salary and benefits. Contact: D.L. Wagoner, M.D., 525 18th Street East, Glencoe, Minnesota 55336 or call (612) 864-3116. 3-1/88

**Internal Medicine:** Board certified or eligible to join 12-physician, expanding, multispecialty practice in northern Wisconsin. Clinic adjoins JCAH hospital. Rural location with abundant outdoor recreational opportunities, small four-year college. Excellent salary and benefits. Call collect: (715) 532-6651 or send CV with names of references to: John C. Smylie, Administrator, Marshfield Clinic - Ladysmith Center, 906 College Avenue West, Ladysmith, Wisconsin 54848. *3-1/88

**Family Practice Physician** - wanted to join a 19-physician multispecialty primary care clinic located across from North Memorial Medical Center, a progressive and modern hospital in Robbinsdale, Minnesota. Very competitive salary and benefit package. Three contemporary offices. Please contact: Dan Noonan, M.D., at North Clinic, 3366 Oakdale Avenue North, Robbinsdale, Minnesota 55422; telephone (612) 588-4625. 3-1/88

**OB/GYN,** board certified or eligible, to join highly progressive, rapidly growing practice. Normal and high-risk obstetrics emphasized along with highest levels of infertility care (microsurgery, GIFT, IVF, laparoscopic laser surgery), as well as extensive gynecology and surgery practice. Easy lake country or Milwaukee suburban living. Salary and guarantees to meet your needs with opportunity for partnership in one year. Available July 1988, or earlier. Contact: Matt Meyer, M.D., Women's Health Care, S.C./ Milwaukee Regional Fertility Center, 426 West Main Street, Waukesha, Wisconsin 53186; (414) 549-1333. 4-2/88

**Internal Medicine Physician,** board certified/board eligible to join 23-physician multispecialty group in Winona, Minnesota, with existing 9-physician Internal Medicine Department. Total draw of 40,000 population. Competitive salary offered. Interested physicians please contact: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, Minnesota 55987. 3-1/88

**Pediatrician** wanted to join a 40-physician multispecialty group in northern suburbs of Minneapolis. The appropriate candidate will join the current Pediatric Department of four physicians in a very busy practice. Please address inquiries to: Ronald J. Jankowski, M.D., Ramsey Medical Center, 5300 153rd Avenue, Ramsey, Minnesota 55303, or phone (612) 427-7180. 3-1/88

**General Internist** to join six-man internal medicine clinic in Duluth, Minnesota. Subspecialty interest encouraged. Competitive first-year salary and benefits. Contact: David R. Albright, M.D., or Randall L. Johnson, M.D., 220 Medical Arts Building, Duluth, Minnesota 55802; telephone (218) 727-8585. 3-1/88

**40-year-old Internist Seeks BE/BC Internist** to provide locum tenens in this central Minnesota resort community. Beautiful lakes and expanding retirement area. New 162-bed hospital with all specialties. Offices in five-year-old medical office building. Write: Minnesota Medicine (807), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. 4-2/88

**Family Physician Sought** to join a group of five board certified family physicians practicing in a city of 3,500 population in the beautiful Minnesota River Valley. New hospital with new attached clinic and satellite locations with the very latest in equipment. Very busy, growing practice. Contact: D. Carter, M.D., (612) 564-2511 (office), (612) 564-4409 (home), 295 Tenth Avenue, Granite Falls, Minnesota 56241. (R)

**Family Practice:** We are in need of two family practice physicians, preferred board certified, to cover expanding service area. Sandstone Area Hospital/Nursing Home is a 30 bed acute and 86 bed long-term care facility with a clinic located next to the facility staffed by two full-time physicians. Sandstone is located in Northeast Minnesota's heartland, providing rich recreational activities. For more information, call/write: James G. Blum, Administrator, Sandstone Area Hospital, 317 Court, Sandstone, Minneseota 55072; (612) 245-2212. *(R)

**General Surgeon and Family Physician** needed for busy five-physician practice. Guaranteed first-year salary with excellent benefits program. Located only 22 miles from Duluth on the beautiful North Shore of Lake Superior. Call collect: (218) 834-2171, or write Steve Bjorum, Executive Director, Community Health Center, 4th Street at 11th Avenue, Two Harbors, Minnesota 55616. (R)

**Physicians Needed:** Opportunities nationwide!! Call (612) 633-4990 or send CV to: Earl Czech, North Central Staff Services, Inc., 443 — 8th Street NW, St. Paul, Minnesota 55112. (R)

**Family Physician:** Twin City convenience care center seeking full-time or part-time family physician to provide care for minor emergencies and illness. Competitive salary. Send CV to: Richard M. Gebhart, M.D., Grove Square Convenience Care, 13800 83rd Way, Maple Grove, Minnesota 55369; or call (612) 420-5822 days or (612) 420-5279 evenings. 7-4/88

**Family Physician/Emergency Room:** Full-time salary working weekends, primarily emergency room. Flexibility available. Falls Medical Center, PA, 105 Shorewood Drive, International Falls, Minnesota 56649. Please contact: A. Johnson, M.D., or A. Marc Gorden, M.D., at (218) 283-9431 for more information. (R)

**Family Practitioner, General Internist, and General Surgeon** to join 8-physician clinic in Cloquet, Minnesota, a community of 14,000 (30,000 service area), located 20 minutes from Duluth-Superior. The clinic facility is located one block from modern, well-equipped hospital. Cloquet enjoys a stable economy (forest products). Additionally, our community is noted for its excellent school system. First-year salary guarantee, paid malpractice, health and disability insurance, vacation, and study time. Contact: John Turonie, Administrator, Raiter Clinic, Ltd., 417 Skyline Boulevard, Cloquet, Minnesota 55720; (218) 879-1271. (R)

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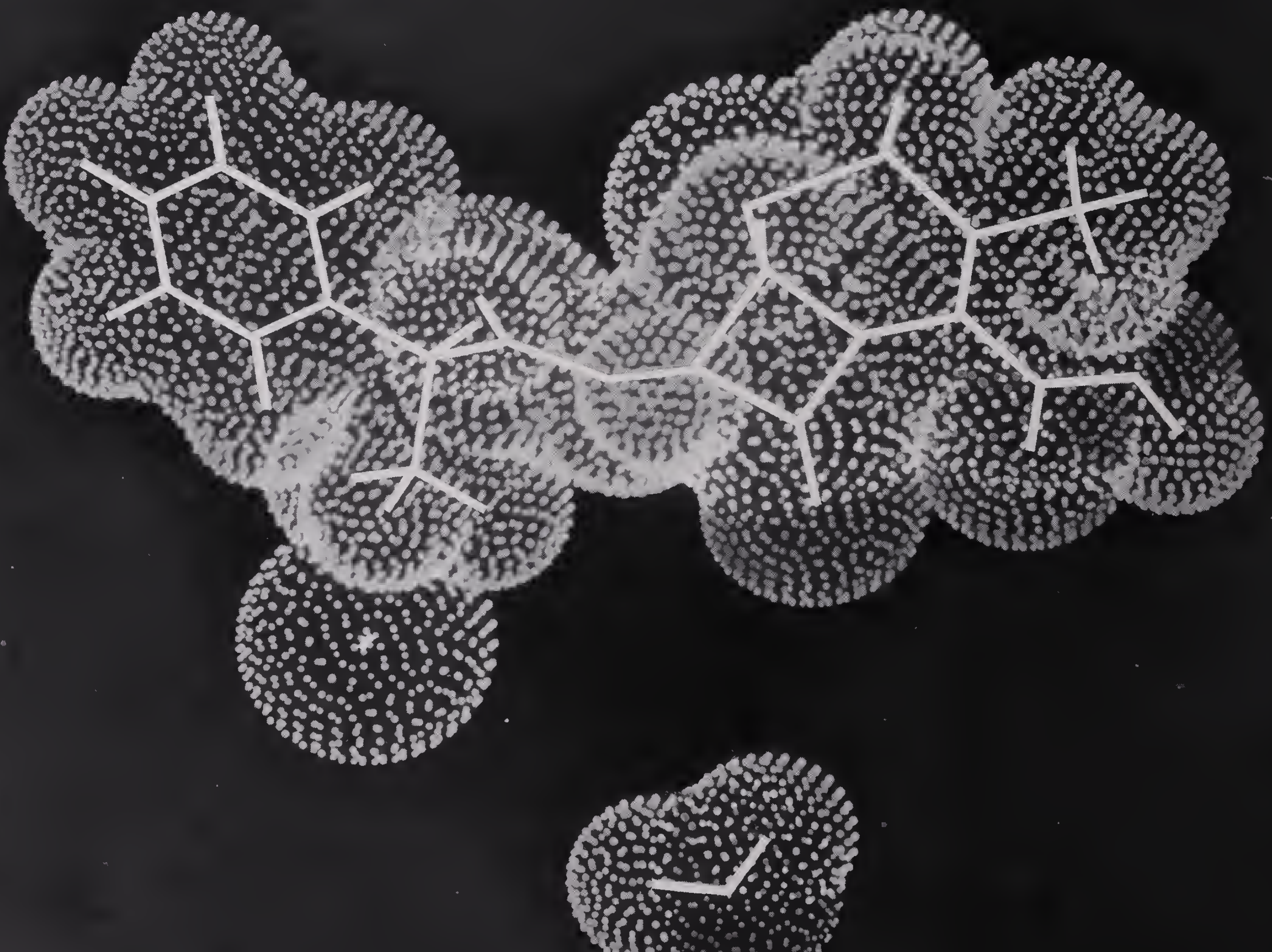

Computer-generated molecular structure of cephalexin hydrochloride monohydrate

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# Convenient 500-mg b.i.d. dosage and demonstrated effectiveness for treatment of:

☐ skin and skin structure infections*
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☐ pharyngitis‡

- New hydrochloride salt form of cephalexin—requires no conversion in the stomach before absorption
- Well-tolerated therapy
- May be taken without regard to meals

*For other indicated infections, 250-mg tablets available for q.i.d. dosage*

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Penicillin is the drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever.

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*Due to susceptible strains of *Staphylococcus aureus* and/or $\beta$-hemolytic streptococci.
† Due to susceptible strains of *Escherichia coli*, *Proteus mirabilis*, and *Klebsiella* sp.
‡ Due to susceptible strains of group A $\beta$-hemolytic streptococci.

**KEFTAB™**
**(cephalexin hydrochloride monohydrate)**

**Summary: Consult the package literature for prescribing information.**

**Indications and Usage:**

*Respiratory tract infections* caused by susceptible strains of *Streptococcus pneumoniae* and group A $\beta$-hemolytic streptococci.

*Skin and skin structure infections* caused by susceptible strains of *Staphylococcus aureus* and/or $\beta$-hemolytic streptococci.

*Bone infections* caused by susceptible strains of *S aureus* and/or *Proteus mirabilis*.

*Genitourinary tract infections*, including acute prostatitis, caused by susceptible strains of *Escherichia coli*, *P mirabilis*, and *Klebsiella* sp.

**Contraindication:** Known allergy to cephalosporins.

**Warnings:** KEFTAB SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

**Precautions:**

- Discontinue Keftab in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- Keftab should be administered cautiously in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy and lactation. Cephalexin is excreted in mother's milk. Exercise caution in prescribing Keftab for these patients.
- Safety and effectiveness in children have not been established.

**Adverse Reactions:**

- *Gastrointestinal*, including diarrhea and, rarely, nausea and vomiting. Transient hepatitis and cholestatic jaundice have been reported rarely.
- *Hypersensitivity* in the form of rash, urticaria, angioedema, and, rarely, erythema multiforme, Stevens-Johnson syndrome, or toxic epidermal necrolysis.
- *Anaphylaxis* has been reported.
- *Other reactions* have included genital/anal pruritus, genital moniliasis, vaginitis/vaginal discharge, dizziness, fatigue, headache, eosinophilia, neutropenia, and thrombocytopenia; reversible interstitial nephritis has been reported rarely.
- Cephalosporins have been implicated in triggering seizures, particularly in patients with renal impairment.
- *Abnormalities in laboratory test results* included slight elevations in aspartate aminotransferase (AST, SGOT) and alanine aminotransferase (ALT, SGPT). False-positive reactions for glucose in the urine may occur with Benedict's or Fehling's solution and Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

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**Family Physician** needed to replace retiring partner in thriving 3-FP full-service practice in Starbuck, Minnesota, on the state's thirteenth largest lake. Good hunting and fishing. Modern nine-year old hospital. Twenty miles to University Campus. Call or write: Robert Bosl, M.D., Starbuck Clinic PA, Starbuck, Minnesota 56381; (612) 239-2231. (R)

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V. 71, No. 2

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COLLEGE OF PHYSICIANS
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A JOURNAL OF CLINICAL AND HEALTH AFFAIRS

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FEBRUARY 1988

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# Minnesota's High-Tech Medicine

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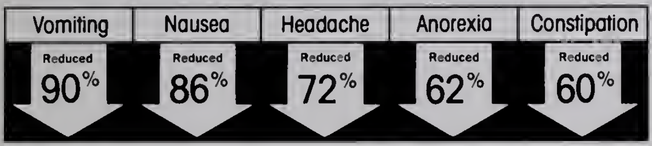

- **Only ⅓ the dropout rate due to side effects of amitriptyline alone, although the incidence of side effects is similar[1]**

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**References: 1.** Feighner JP, *et al: Psychopharmacology 61*:217-225, Mar 22, 1979 **2.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ

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**Limbitrol®** Ⓒ IV
**Tranquilizer—Antidepressant**
**Before prescribing, please consult complete product information, a summary of which follows:**
**Indications:** Relief of moderate to severe depression associated with moderate to severe anxiety.
**Contraindications:** Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use; then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.
**Warnings:** Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients. (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving).

> ***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage; withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).
**Precautions:** Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady state concentrations of the tricyclic drugs. Concomitant use of Limbitrol with other psychotropic drugs has not been evaluated, sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.
**Adverse Reactions:** Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.
The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs.
*Cardiovascular:* Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.
*Psychiatric:* Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.
*Neurologic:* Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.
*Anticholinergic:* Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.
*Allergic:* Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.
*Hematologic:* Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.
*Gastrointestinal:* Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.
*Endocrine:* Testicular swelling and gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion.
*Other:* Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.
**Overdosage:** Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.
**Dosage:** Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly. Limbitrol DS (double strength) Tablets, initial dosage of three or four tablets daily in divided doses, increased up to six tablets or decreased to two tablets daily as required. Limbitrol Tablets, initial dosage of three or four tablets daily in divided doses, for patients who do not tolerate higher doses.
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## Cover Photograph

**Frosted Pine** Barbara Mulvaney, a cytotechnologist at St. Mary's Laboratory, took this month's cover photograph of a frost-covered Austrian pine several years ago in Eden Prairie, Minnesota. She took the shot at night using a Pentax camera with a flash to capture the fine detail of the frosted boughs.

Ms. Mulvaney, of Maple Grove, is a freelance nature photographer and had one of her photographs selected for the 1988 WCCO Weatherguide Calendar.

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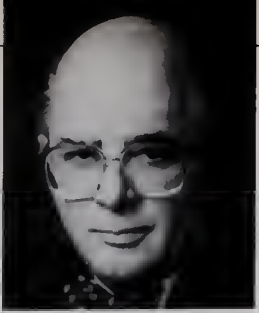

RICHARD L. REECE, M.D.

## EDITOR'S NOTEBOOK

# The Technology of Medicine in Minnesota

Herein you will find a few things you may want to know about the state of medical technology in Minnesota.

This issue contains two interviews by me, one with Earl Bakken, founder of Medtronic and chairman of the board of Medical Alley, the other with Robert Van Tassel, M.D., a cardiologist with the Minneapolis Heart Institute; an article by George Heenan of Medilase, Inc., on the physician entrepreneur; freelance articles on high-tech genetics and biotechnology in Minnesota; an assessment of magnetic resonance imaging by David Larson, M.D., and Douglas Yock, M.D., two Minneapolis radiologists; and a clinical report by John Hulbert, M.D., of the Mayo Clinic, on the use of lithotripters to smash renal calculi.

You may wonder why *Minnesota Medicine* is devoting an issue to medical technology. To begin with, Minnesota has a rich history, an exciting present, and a promising future in the high technology of medicine. Besides, it's high time *Minnesota Medicine* paid more attention to the issues and happenings in technology itself. High technology in medicine, at least in the short run, drives up the cost of medical care, enhances the market share of those who have it, improves the effectiveness of care, and enriches those who develop it and apply it first.

### Past and Present

If you consider the past, you will realize much of Minnesota's reputation for medical excellence rests on its technological innovations and achievements.

After all, it was at Mayo where Kendall synthesized cortisone and McGoon perfected the techniques of heart valve repair and replacement; it was at the University of Minnesota where Lillihei developed the heart-lung machine and Najarian's team mastered the technologies of transplanting organs; it was in a garage in northeast Minneapolis where Bakken fashioned the first portable cardiac pacemaker; it was in St. Paul where Foley came up with the idea of his bladder catheter; it was at St. Barnabas Hospital in Minneapolis where Rice tumbled onto the concept of the surgical swedged suture; it was at Abbott Northwestern where Van Tassel began work on a "safe" cardiac catheter. Specialists throughout Minnesota have always been among the first to apply on a wide scale the current high technologies—coronary bypass surgery, joint replacements, organ transplants, extracorporeal renal stone smashing.

### Why Minnesota?

Why this widespread high medical technology in a midwestern state? Various factors contribute—Minnesota's excellent engineering schools, its highly regarded medical education programs, its existence as a center for manufacturing computers and medical devices, and its tradition of working in consensus-building teams, Japanese style, to achieve goals.

### Technological Assessment

Because those in the United States' medical system like to tinker with technology, to experiment with it before it is fully proven, to apply it on a broad scale early, to give large profits to those who are first in the medical markets, academic and government critics often assert we ought to assess technology extensively before we apply it. In 1975 Congress approved establishing the National Center for Health Care Technology. The assessment center opened in 1978 and ceased operation in 1981, when the Reagan Administration refused to give it funds because of opposition from the AMA, the Health Industry Manufacturers Group, and others. Whatever the merits of its case, the center didn't slow the momentum of medical technology one whit.

### Failure of Assessment

I, for one, expect other efforts to slow technology in order to "assess" it will continue to fail.

Why?

- American society has come to expect and to rely upon advances in technology and to demand access to fruits of that technology. Ask any practicing physician whose patients insist they be referred to a subspecialist so some high-tech procedure can be performed.
- Much of the new technology is simply so good it cannot be denied. Consider such technologies as organ transplant since cyclosporin came onto the scene, coronary bypass, hip replacement, lithotripter therapy for renal stones, lavostatin for reducing blood cholesterol, and diagnostic devices such as MRI and CT scanners.
- The American public, because of the effectiveness of these new technologies and the media hype that surrounds them, demands the

***Notebook*** *continued on page 100*

# Pacemaker of Minnesota's Health Care Industry

MM *Mr. Bakken, you're a man of many roles and many skills. Today I thought we might focus in on your relationship to the medical profession since you were intimately involved with doctors when you founded Medtronic 38 years ago. Could we go back to the beginning when you co-founded Medtronic. What were the circumstances?*

BAKKEN The relationship of electricity to life always interested me. I believe this interest originally was sparked when I saw the Frankenstein movies in 1931 when Dr. Frankenstein used electricity for reanimating the creature. That interest continued through the years. When I was in college at the University of Minnesota, I dreamed of working in biomedical engineering. My vision was to get my degree and then get a job in the medical division of Honeywell.

But when I was in graduate school, I would wander over to the University Hospitals. People there knew I was in electrical engineering and would ask me to repair their equipment. That was 1948, just after World War II. Hospitals and clinics were just beginning to use electronically based medical equipment, but they were not staffed to repair that kind of equipment. My brother-in-law and I recognized there were no good service agencies for repairing medical electronic equipment. So I quit graduate school. He quit his job at a lumber yard. We set up Medtronic in a garage in northeast Minneapolis with the objective of being a quality repair or service company in the field of medical electronics. We started in April of 1949; the first month we did $8 worth of business. That was our beginning.

MM *Did you start to grow rapidly?*

BAKKEN No, we grew slowly over the next several years. The Sanborn Company, a producer of electrocardiograph machines, would call on us to repair their machines. In 1950 we took over their sales agency. We acted as their sales agent for this five-state area.

In 1952 Sanborn came out with a multichannel physiologic recorder that recorded electrocardiogram on one channel, blood pressures on other channels, and flow on a fourth channel.

In 1953 and 1954, Dr. C. Walton Lillihei and his residents and interns at the University of Minnesota were doing the first work in the field of open-heart surgery. They needed multichannel physiological recording equipment to record physiological phenonema in connection with their experiments. They bought our equipment, but they had nobody to run it. So they asked me to run the equipment when they were doing their animal studies and then for their first open-heart surgeries in 1954.

**EARL E. BAKKEN**

As Lillihei and his team went on developing the heart surgery, they found that when they would repair an interventricular septal defect, in some cases, they would inadver-

**Bakken** *continued on page 106*

*I interviewed Earl Bakken at his New Brighton townhouse. Immediately I learned this was a man who laid his cards on the table. When I asked what positions he held, he placed five business cards in front of me. These cards read: Medtronic, Founder and Senior Chairman of the Board; Medical Alley, Chairman of the Board; The Bakken - A Library and Museum of Electricity of Life, Founder; Archaeus Project, Chairman, Board of Directors; and the Pavek Museum of Wonderful Wireless, Member.*

*From these cards, it was apparent Earl Bakken was a mover, shaker, and a museum-maker. I feared he would be a formidable man to deal with, or one who would deal with me easily. Neither thought proved founded. The interview flowed effortlessly. As he set forth his visions, Earl Bakken proved to be earnest, patient, and logical. Although he spoke with the precision of an engineer, he clearly had the heart and soul of a physiologist, someone with a lifelong dream of wiring the human body to perform at its best. In achieving his dream, he has converted himself from a pacemaker for the heart to the pacemaker of the Minnesota health care industry.*

# At the Heart of Minnesota's Cardiovascular Industry

*When I interviewed Dr. Van Tassel, a maxim of W. Clement Stone, godfather of the Positive Mental Attitude movement, sprang to mind: "Anything the mind can conceive and believe, the mind can achieve."*

*When he started practice as a cardiologist in Minneapolis in 1971, Robert Van Tassel conceived of cardiologists as specialists who ought to spend more time in hospitals, doing invasive procedures and applying the newest cardiovascular technologies. Furthermore, he believed these technologies rested on the experience, knowledge, and integrity of cardiac specialists who preceded him and taught him. Finally, he conceived and believed cardiology's future could only be achieved through an organization of cardiovascular specialists sharing mutual resources, a spirit of trust, and common purpose.*

*By applying his clarity of vision, Dr. Van Tassel was able to achieve his goals in two organizations—the Minneapolis Heart Institute at Abbott Northwestern Hospital and Angiomedics, a startup heart catheter company later sold to Pfizer Corporation. Dr. Van Tassel is a physician who has gone forward by going back to the basics.*

MM *Dr. Van Tassel, you're a cardiologist in a 14-person group at Abbott Northwestern Hospital and one of the founders of the Minneapolis Heart Institute. You were also instrumental in forming a company called Angiomedics which was subsequently sold to Pfizer. You're primarily a clinical cardiologist and just secondarily involved in this new Pfizer venture. Why don't we start out by having you tell us about your educational background and your mentors.*

VAN TASSEL I was an undergraduate at the University of Minnesota, and I received my medical degree at the University of Minnesota in 1964. I then completed a rotating internship at Hennepin County General Hospital, then stayed on at Hennepin County as a resident in internal medicine.

Following that, I went into the Air Force for two years as a flight surgeon and then returned to a cardiology fellowship at the University of Minnesota. I had the good fortune of being there at a time when not only were its radiology and cardiology senior staff extremely good, but they were people who taught a lot more than just cardiology.

Howard Burchell, chief of the cardiology section at that time, was my professor and mentor. I spent part of the fellowship with Dr. Jesse Edwards at Miller Hospital in St. Paul studying cardiac pathology. Dr. Edwards teaches you not only how to be a good physician but how to be a gentleman. I learned from his example how to treat people, how to treat patients, and how to treat colleagues. I cherish these human lessons as much as I do the medical knowledge that I gained during that rotation.

I returned to the University and worked with Dr. Kurt Amplatz in the department of cardiovascular radiology and with Dr. Yang Wang, who directed the cardiovascular laboratory. Those four people gave me a strong background not only in clinical medicine but in a philosophy of life.

ROBERT VAN TASSEL, M.D.

MM *When you entered cardiology practice in 1971, what was the state of the art, and what were you trying to do?*

VAN TASSEL In 1971 cardiology was primarily office practice. Few people were doing hospital-based cardiology, and few people were doing invasive cardiology. Dr. Rolf Andreassen, who preceded me at Abbott Northwestern, was one of these few. Invasive procedures were just coming into being. They were done, but mainly at large centers, and then only in certain institutions.

When I left the University to go into private practice, I wanted to be an invasive cardiologist. I wanted to be primarily hospital based, and I wanted to be involved primarily in the cardiac catheterization laboratory.

In retrospect, the timing was perfect because this was a time when a great deal of technology was being developed in cardiology.

*continued*

At the same time, great strides were taking place in cardiovascular surgery—better valves, better bypass, safer anesthesia. Thus, it was easier and safer for our patients to have bypass surgery, to undergo valve replacement, and to have congenital heart defects repaired. There was a greater need for somebody doing my type of work. I was present at what turned out to be an explosion of cardiovascular medicine.

MM *How many open-heart cases were being done in 1971?*

VAN TASSEL In 1971 we did 75 cases.

MM *And at Abbott Northwestern you're now doing 1,300?*

VAN TASSEL We're doing about 1,300 open-heart surgeries a year.

MM *When did angioplasty really catch on? I understand you're now doing about 850 angioplasties a year. What was it like in the beginning?*

VAN TASSEL Angioplasty didn't come into being at all until 1977 when the first cases were done in Switzerland. I went to Switzerland in September of 1979, and we did our first angioplasty case in November 1979. So angioplasty was not done at all until I'd been in practice eight years.

MM *Tell me about the genesis of the Minneapolis Heart Institute and the thinking that led to this consortium of cardiovascular specialists.*

VAN TASSEL When I arrived at Abbott Northwestern, it was apparent that we had excellent people in almost all fields. We had good cardiovascular surgeons, we had good cardiovascular anesthesiologists, we had good pediatric cardiologists, and the radiology department was very strong.

But we were all practicing independently. We were small proprietors of our own individual practices. It was difficult for us to establish routine protocols to manage patients. The nurses were treating postop patients differently for one surgeon than they were for another. The preop evaluation of patients would be a little different depending on what that particular surgeon wanted. We couldn't get any consensus because we were all practicing alone.

To improve the quality of care to patients, and to form a critical mass to attract other people, several of us knew we had to come together under some umbrella. This umbrella would allow us to be independent practitioners, but at the same time it would allow us to create more uniform research protocols, study protocols, and patient management systems. The institute would attract people we wanted, people who might want to work in a center where they could perfect their individual specialties. For instance, an echocardiographer or an electrophysiologist—people who couldn't practice all alone but who could become part of a large group. Up until that time those people only went to the large academic centers.

MM *Given the individualism and eccentricities and strong egos of doctors, how many hours of discussion and months of time did it take to put together the final organizational structure and sign the contract?*

VAN TASSEL It was a monumental task. It wasn't months; it was years. We actually talked three years before we came to a consensus. You're right—all of us had egos and those of us in cardiovascular medicine might have even stronger egos. Everyone had to give. Everybody had to bend a little bit to create an institute that would allow this format. We had excellent legal help in all of this, and we had a core of people, cardiologists and cardiovascular surgeons, who were interested in doing this. It involved setting up a format that wasn't threatening to anyone's individuality and that wasn't threatening economically.

MM *In what year was the Heart Institute finally formed?*

VAN TASSEL The institute was formally chartered in 1982.

MM *How many cardiovascular specialists do you have now?*

VAN TASSEL We now have 40 physicians in the Heart Institute and over 100 employees. The Heart Institute has cardiovascular surgeons, research cardiologists, preventive cardiologists, clinical cardiologists, cardiovascular radiologists, cardiovascular anesthesiologists, and pediatric cardiologists.

MM *Do you have your own building?*

VAN TASSEL Yes. We just moved into our building a year ago on the campus of Abbott Northwestern Hospital.

MM *Somewhere in the course of forming the Heart Institute and your practice of invasive cardiology, the idea occurred to you that a safer catheter was needed. That idea, in turn, became the seed of a company. Tell us the Angiomedics story.*

VAN TASSEL As we discussed, when I was a fellow in cardiology, I spent six months with Jesse Edwards in cardiovascular pathology at the Miller Hospital in St. Paul. As part of that, we would do autopsies along with Dr. Edwards on the people who had died following either open-heart surgery or following coronary angiography.

Dr. Edwards would point out to us that one could occasionally see minute but definite damage to the coronary arteries resulting from the procedure.

He chided us about making the procedure safer in the future by modifying the technique. It wasn't until I entered practice and recognized clinically the damage to the arteries during angiography that either led to a major problem, or on a rare occasion, led to death, that we actually addressed the catheter-induced trauma problem. We addressed it by working with engineers to develop a safer catheter.

MM *What year was that?*

VAN TASSEL That was 1983. Many engineers had worked on that problem prior to our involvement. But little progress was made until Mark Rydell, an engineer working with a company called

Cathedyne in Minneapolis, looked at this problem. He was able to engineer the tip of the catheter such that it was not only soft but it was deformable, that is, as you put pressure on the tip of the catheter, it would deform. The engineering design is called a toroid, which is a donut shape. It was the donut shape that really made that catheter work.

MM *In our earlier discussion you said you returned to your mentors to confirm the efficacy of this catheter.*

VAN TASSEL After Mark Rydell designed the tip, and we had done some work on it to make a more acceptable prototype, I brought it to Kurt Amplatz. He is an excellent angiographer, had great experience, and was the ideal person to critique it. Dr. Amplatz thought the catheter had merit. In fact, he did the initial dog experiments for us at the University of Minnesota. The data were very favorable for the soft, deformable tip of the Angiomedics catheter. I went back home to get some support.

MM *And Dr. Edwards did the microscopic study to confirm that it was safer?*

VAN TASSEL One of his trainees, Zeev Vlodaver, actually looked at the specimens. But Dr. Edwards was involved in the protocol and helped us attract Dr. Vlodaver to do our microscopic analysis.

MM *It's my understanding that the deformable soft-tip catheter became an almost instant commercial success and began to consume more and more of your time. You were at a career juncture. You had to decide whether you were going to devote all your time to cardiology or to business demands. You chose, you and your partners, to sell the company.*

VAN TASSEL Yes. I enjoyed the business aspect of it. I particularly enjoyed the research and development and clinical studies to prove that what we had done was right. But when it came down to the choice, would I rather spend time doing business or doing cardiology, it was easy. I would rather do cardiology.

MM *I'm going to play a word association game with you. I will drop some names on you. I want you to speculate about the future of these as they relate to cardiology. These are all high-technology subjects.*

*First, laser angioplasty.*

VAN TASSEL Laser angioplasty will definitely play a role in the treatment of vascular disease. But the role in the present format will not be the one we will end up using clinically. Laser angioplasty is a real entity. It will succeed, but we still have a long way to go before the final clinical models are available.

MM *The metallic stent to keep the coronary arteries open.*

VAN TASSEL The stent is the most exciting new concept on the

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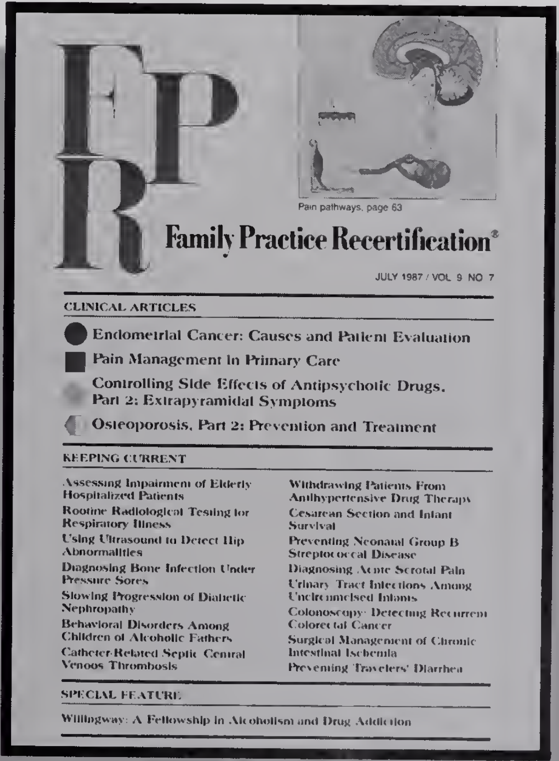

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near horizon for the interventional cardiologist. A major problem with angioplasty is that about 25 to 30 percent of the time that we dilate an artery, it will restenose, or re-narrow in time. In early studies in dogs and in humans in Europe, the stent has alleviated re-stenosis. It is one of the things we're involved in right now. It has the most promise and will have the greatest impact in cardiovascular medicine.

MM *TPA, or thromboplastin activator.*

VAN TASSEL TPA will be a standard of care in the community within a year. TPA lyses clots, and it's effective. It works 70 percent of the time to lyse a clot in a coronary artery; it decreases mortality, and it saves heart muscle.

MM *What is the expense for a dose?*

VAN TASSEL That's the major problem with the use of TPA, its cost. At present, depending on the hospital, its cost is at least $2,000 and probably up to $2,500 per dose.

MM *The artificial heart.*

VAN TASSEL The artificial heart is in its infancy. The current use of the artificial heart should be restricted to bridging people to transplant. It's a temporary device to tide someone over until that person can receive a donor-transplanted heart. I think it's highly likely that in the future some form of artificial heart will be developed that can be used on a permanent basis, but we don't have that heart now.

MM *Do you see any other technological breakthroughs on the horizon?*

VAN TASSEL The major breakthroughs, as I see them, are going to be pharmaceutical, not technological. The death rate for coronary disease in the United States has fallen every year for the last ten years. In the last three years it's fallen almost 20 percent. The reason for the decrease in the morbidity and mortality of coronary disease probably has less to do with interventional cardiology than preventive cardiology, that is, dietary management of hypercholesterolemia, education of people to stop smoking, and the increased emphasis on physical activity. The 1960s was the decade of educating people on the risks of smoking, the 1970s was the decade of treating people for hypertension, the 1980s and 1990s will be the decades of treating hypercholesterolemia. Diet will play a major role, but as important will be pharmaceuticals—the use of medications such as lovastatin and cholestyramine. These medications will be major breakthroughs that will affect many more people than a whole army of interventional cardiologists.

MM *Enough about high tech. In closing, it's always been my impression as an outside observer that the bedrock of Minneapolis Heart Institute's success has been "high-touch relationships." You spend a lot of time building relationships.*

VAN TASSEL That's right. We have a full-time director of education, we have a full-time director of research, we sponsor nearly 20 conferences a year both here in Minneapolis and in smaller communities. We believe educational exposure is necessary not only for our visibility and for attracting referral practice, but for improving cardiovascular medicine statewide.

Look towards the 21st century through 17th-century windows.

Well, actually, not all of our windows are quite that old. Just the hand-painted ones (50 or so of them, made in Europe in the 1600's).

The rest of the windows date from the early part of the 20th Century, when the Pillsbury and Crosby families built The Mansions, three stately homes of 6,000, 10,000 and 18,000 square feet near the Arts Institute just south of downtown Minneapolis.

After a long life as private homes, then as home to a seminary, and then to Carmichael Lynch Advertising, The Mansions are now available as office space to anyone who is moved by the sight and feel of 300-year-old stone fireplaces, hand-pegged teak floors, and panelling from English castles. Anyone, in other words, with an appreciation for the past, and a desire to improve their corporate image for the future.

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# Biotechnology and Health Care

## Minnesota's Productive Partnership

*Gay Herzberg, Ph.D.*

Biotechnology, a blossoming ally of health care, is key to Minnesota's standing as a national and international health care leader. Moreover, the linkage between biotechnology and health care is important to the future economic prosperity of the entire state.

Minnesota is often acknowledged as the nation's leading health care center. The state has 60 percent more people employed in health care per capita than the national average. Minnesota's medical industry, the state's fastest growing sector of products and services, is gaining national and international visibility with the new Minnesota Medical Alley Association. This group, acting as a medical "chamber of commerce," is composed of health products and services organizations (see related interview, page 68).

The importance of health care, both in its potential to improve the quality of life and its economic significance to the state, has given it top status among Minnesota's industries. Biotechnology will enhance the health care industry's position and its contribution to Minnesota's economy by keeping the state a step ahead in innovation and efficiency. Minnesota has the necessary ingredients for a highly successful biotechnology and health care partnership. The state is home to several prominent research and training facilities. Complementing this medical base is an emerging academic and industrial biotechnology presence.

With the goal of capitalizing on its existing strengths, Minnesota has taken action. The State Legislature created the Minnesota Council on Biotechnology in 1985 as the focal point of the state's efforts to develop and promote biotechnology. The council was composed of academic, industrial, and government leaders. The council's definition of biotechnology helps to illuminate its vast potential:

*Biotechnology is the application of the revolutionary advances in biology, chemistry, computers, engineering, materials science, and medicine to the understanding and improvement of living organisms. The ultimate goal is to produce new medical device systems, innovative health care, improved crops and livestock, and advanced drugs and food processing techniques.*

The council presented the 1987 Minnesota Legislature with a strategy to foster the development of biotechnology throughout the state. Among the health care-related biotechnology recommendations to receive support were the following: the Institute for Advanced Studies in Biological Process Technology at the University of Minnesota was awarded a $450,000 increase for the biennium (biological process technology involves the design of efficient, commercially applicable, large-scale production processes and methods for efficient purification and separation of the desired product from its chemical environment); Minnesota Project Innovation, an organization that assists innovative small businesses, received $240,000 for the biennium; and the state's Science and Technology unit received an $800,000 appropriation for the biennium.

**Biotechnology will transform the way medicine is practiced.**

Evidence suggests that an investment in biotechnology will bring a significant economic return to the state. A study coordinated by William Rudelius of the University of Minnesota, and carried out jointly with Council on Biotechnology staff, determined that biotechnology will create a more efficient, productive health care system and new products and treatments not previously available.

The study indicated that funding biotechnology could provide substantial returns in terms of profit margins and employment potential in businesses that serve the health care industry, such as the biomedical device manufacturing companies and biological engineering companies. It identified 83 biomedical device firms that are closely linked to the health care industry in Minnesota. These firms are predicting approximately 27,000 additional jobs by the year 2000.

If the economic potential of biotechnology is great, even more dramatic is its promise for the medical practitioner. Marilyn Bach, former executive director of the Minnesota Council on Biotechnology and associate professor at the University of Minnesota Medical School and School of Public Health, believes that "biotechnology will transform the way medicine is practiced."

In a recent interview with

Richard Reece, Bach spoke about recent biotechnology innovations in the health care field. She described the extraordinary benefits of tissue plasminogen activator, which can dissolve clots in coronary arteries, thereby interrupting heart attack. Other biotechnology-engineered products include human growth hormone, alpha interferon, hepatitis B vaccine, and new drugs that increase the production of red cells to combat certain types of anemia and white cells in immune-deficient patients (Table).

**TABLE**
Projected Market Dates for 11 Biologicals

| Product | Market Date | Company |
|---|---|---|
| Alpha Interferon | 1985-87 | Biogen/Schering-Plough<br>Genentech/Hoffmann-La Roche<br>Amgen (Concensus alpha) |
| Beta Interferon | 1987-89 | Cetus/Shell Oil<br>Biogen/Schering-Plough<br>Chiron/Lucky Ltd. |
| Erythropoietin | 1990-92 | Amgen/Kirin<br>Genetics Institute |
| Gamma Interferon | 1987-89 | Biogen<br>Genentech/Boehringer/Daiichi<br>Amgen<br>Chiron/Lucky Ltd. |
| Hepatitis B Vaccine | 1987-88 | Merck/Chiron<br>Biogen/Green Cross & Wellcome<br>Amgen |
| Human Growth Hormone | 1985-86 | Genentech/Kabi |
| Interleukin 2 | 1987-89 | Immunex/Hoffmann-La Roche<br>Biogen<br>Amgen<br>Cetus<br>Chiron |
| Monoclonal Antibody Anticancer Agents | 1989-91 | Cetus<br>Hybritech<br>Xoma |
| Monoclonal Antibody Anti-Infectives | 1989-91 | Centocor<br>Genetic Systems/Cutter<br>Cetus |
| Tissue Plasminogen Activator | 1986-88 | Genentech/Boehringer/Mitsubishi<br>Biogen/SmithKline<br>Collaborative Research/Sandoz (KPA)<br>Genetics Institute/Wellcome<br>Integrated Genetics/Toyobo<br>Chiron/Hoechst |
| Tumor Necrosis Factor | 1990-91 | Genentech/Fujisawa<br>Cetus<br>Biogen/Suntory/BASF |

Source: Paine Webber.
Reprinted with permission from the *Journal of the Minnesota Academy of Science*, Vol. 53, No. 1, 1987-88.

Important biotechnology research is currently in progress at Minnesota's academic institutions and industrial laboratories. In the academic sector, P. Patrick Cleary of the University of Minnesota Microbiology Department has developed a method for distinguishing strains of bacteria within the same species of steptococci. He removes the DNA from the bacteria, slices it with restriction enzymes, and displays the DNA fragments in a DNA "fingerprint." This fingerprint resembles the bar codes used by supermarkets in their computerized checkout systems and can be read by the same laser-scanning technology. Such technology is invaluable in the rapid control of epidemics in the general population. On a smaller scale, it provides an effective system of classifying organisms found in hospital environments.

Researchers are using biotechnology to explore a variety of other health-related issues. Ronald Ostrow, also of the University's Microbiology Department, is studying human papillomavirus, the second most prevalent type of venereal disease, with the hope of finding a cure. In another significant University of Minnesota study, Susan Harlander, Department of Food Science and Nutrition, and Charles Schachtele, School of Dentistry and Department of Microbiology, are using biotechnology techniques to devise a method for reducing the cholesterol in milk. At the Mayo Medical School, Vanda Lennon, professor of Immunology and Neurology, and her colleagues have devised a simple blood test to diagnose myasthenia gravis. She is now attempting to develop new and better ways to treat the illness.

Industrial biotechnology research is also contributing to Minnesota's health care successes. Health care has long had a strong industrial base in this state. Perhaps the most outstanding example of industrial contribution was the introduction of the implantable pacemaker by Medtronic in 1960. Current projects with health care applications in Minnesota industrial laboratories include internal insulin infusion pumps, computer-controlled ambulatory drug delivery systems, tests for herpes, chlamydia, rotavirus, RSV, LSE, multiple myeloma and endocrine disorders, and the development of artificial heart organs and valves.

Marilyn Bach believes that if academic and industrial leaders work closely together, biotechnology research and development will

**Biotechnology** *continued on page 79*

# The Physician Entrepreneur

George M. Heenan

Physicians are uniquely positioned to identify and help start new ventures. Most physicians are entrepreneurs of one sort or another. They may be in private practice or in institutions where they have research or teaching responsibilities that require them to organize and manage projects or to secure funding for those projects. What follows sums up factors that should be considered by physicians contemplating entrepreneurial medical ventures.

## The Pressure

As the health care industry has changed from fee-for-service to prospective payment, more physicians are under economic pressure to participate in entrepreneurial ventures. Many nonprofit institutions have formed marketing and strategic planning committees to develop for-profit subsidiaries. Many Twin Cities health care organizations have formed for-profit ventures. Engaging in an entrepreneurial activity can be an important career step for physicians, who may be driven by a desire to bring a new medical treatment device or service to the public or by the raw economics of a commercial venture.

## Physician Involvement

Too often people planning new ventures do not spend enough time carefully analyzing and documenting how the physician should participate. The physician's skills and interests are important. So are the needs of the company. In some cases physicians have wanted to play businessman, creating havoc instead because they lacked business skills. Or the reverse can happen in medical ventures when businessmen want to play physician, with equally disastrous results. Physicians are most effective in communicating new ideas with heavy emphasis on detailed product requirements.

Physicians can actively participate in a venture by serving as an initial catalyst of a venture idea. They can either define the ideas or license this opportunity to an enterprise. This approach often allows the physician to spend minimal time on the project, yet receive some economic benefit, i.e., through equity participation or royalty agreement.

A physician may also choose to be a medical consultant, acting as a medical advisor, presenting papers at medical meetings, and consulting with the company.

Lastly, a physician may want to be an active participant, committing considerable time and energy to the project and accepting responsibility for specific results. To be an active participant, a physician needs to spend time not only analyzing personal options, but analyzing the impact that his choice will have on colleagues and others. Colleagues may have to compensate for the physician's absence, fewer classes may be taught, and research projects may begin to take a back seat to new business demands.

## The Physician's Role

The physician's role in the new venture should be clearly discussed, defined, and documented before the venture is formed. The physician's responsibilities can include:

- ► Acting as medical missionary to promote acceptance of the medical device or service. This role often involves working with colleagues, presenting papers at medical meetings, and working with a new venture to assure that the company is on the right medical trail.
- ► Defining product requirements — the "musts," "whats," and "wants" of the product, what the product will do, and what its important features and characteristics are from a medical standpoint. To participate in this area requires that the physician communicate with other members of the venture team, the technologists and the marketing people.
- ► Managing the business, product development, and administration of the company. The physician can be effective in raising capital, again by outlining the company's opportunities and products. However, physicians who remain in practice cannot be fully involved in the business operations of the company.
- ► Acting as spiritual leader to capture the vision of the company and help communicate that vision to people inside and outside the company.

## Clarity of Expectations

There must be a "clarity of expectations" among the business venture participants. There is no right or wrong approach, but the one that is adopted should be agreed upon by all those involved. Clarification of what's expected of the

continued

**Before prescribing, see complete prescribing information in SK&F LAB CO. literature or PDR. The following is a brief summary.**

**Contraindications:** There are no known contraindications to the use of 'Tagamet'.

**Precautions:** While a weak antiandrogenic effect has been demonstrated in animals, 'Tagamet' has been shown to have no effect on spermatogenesis, sperm count, motility, morphology or in vitro fertilizing capacity in humans.

In a 24-month toxicity study in rats at dose levels approximately 9 to 56 times the recommended human dose, benign Leydig cell tumors were seen. These were common in both the treated and control groups, and the incidence became significantly higher only in the aged rats receiving 'Tagamet'.

Rare instances of cardiac arrhythmias and hypotension have been reported following the rapid administration of 'Tagamet' HCl (brand of cimetidine hydrochloride) injection by intravenous bolus.

Symptomatic response to 'Tagamet' therapy does not preclude the presence of a gastric malignancy. There have been rare reports of transient healing of gastric ulcers despite subsequently documented malignancy.

Reversible confusional states have been reported on occasion, predominantly in severely ill patients.

'Tagamet' has been reported to reduce the hepatic metabolism of warfarin-type anticoagulants, phenytoin, propranolol, chlordiazepoxide, diazepam, lidocaine, theophylline and metronidazole. Clinically significant effects have been reported with the warfarin anticoagulants; therefore, close monitoring of prothrombin time is recommended, and adjustment of the anticoagulant dose may be necessary when 'Tagamet' is administered concomitantly. Interaction with phenytoin, lidocaine and theophylline has also been reported to produce adverse clinical effects.

However, a crossover study in healthy subjects receiving either 'Tagamet' 300 mg. q.i.d. or 800 mg. h.s. concomitantly with a 300 mg. b.i.d. dosage of theophylline (Theo-Dur®, Key Pharmaceuticals, Inc.), demonstrated less alteration in steady-state theophylline peak serum levels with the 800 mg. h.s. regimen, particularly in subjects aged 54 years and older. Data beyond ten days are not available. (Note: All patients receiving theophylline should be monitored appropriately, regardless of concomitant drug therapy.)

Lack of experience to date precludes recommending 'Tagamet' for use in pregnant patients, women of childbearing potential, nursing mothers or children under 16 unless anticipated benefits outweigh potential risks; generally, nursing should not be undertaken in patients taking the drug since cimetidine is secreted in human milk.

**Adverse Reactions:** Diarrhea, dizziness, somnolence, headache, rash. Reversible arthralgia, myalgia and exacerbation of joint symptoms in patients with preexisting arthritis have been reported. Reversible confusional states (e.g., mental confusion, agitation, psychosis, depression, anxiety, hallucinations, disorientation), predominantly in severely ill patients, have been reported. Gynecomastia and reversible impotence in patients with pathological hypersecretory disorders receiving 'Tagamet', particularly in high doses, for at least 12 months, have been reported. Reversible alopecia has been reported very rarely. Decreased white blood cell counts in 'Tagamet'-treated patients (approximately 1 per 100,000 patients), including agranulocytosis (approximately 3 per million patients), have been reported, including a few reports of recurrence on rechallenge. Most of these reports were in patients who had serious concomitant illnesses and received drugs and/or treatment known to produce neutropenia. Thrombocytopenia (approximately 3 per million patients) and a few cases of aplastic anemia have also been reported. Increased serum transaminase and creatinine, as well as rare cases of fever, interstitial nephritis, urinary retention, pancreatitis and allergic reactions, including hypersensitivity vasculitis, have been reported. Reversible adverse hepatic effects, cholestatic or mixed cholestatic-hepatocellular in nature, have been reported rarely. Because of the predominance of cholestatic features, severe parenchymal injury is considered highly unlikely. A single case of biopsy-proven periportal hepatic fibrosis in a patient receiving 'Tagamet' has been reported.

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**Vials:** 300 mg./2 ml. in single-dose vials, in packages of 10 and 30, and in 8 ml. multiple-dose vials, in packages of 10 and 25.

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physician in a venture is essential. The two most frequently asked questions by entrepreneurs and investors working with physicians are: How do we interact with physicians in the venture? Does having a physician involved mean we act differently or structure the deal differently?

This leads to other questions: What interests and skills does the physician have? What are his strengths? How do we minimize his weaknesses.

Physicians are intelligent people, well trained in their field. Dealing with doctors requires that you understand the personality behind the M.D. This is often the most overlooked factor in a new medical venture. Physician involvement in a new venture requires others to adjust. It is rare for physicians to give up their practices, and their patients do come first, so schedules must be accommodated. Many entrepreneurs and investors have learned to wait patiently outside surgery suites.

### Management Style

Another important element to discuss and resolve is physician management style. In the practice of medicine, physicians get things done through the "powers of the office." However, in a venture, a physician must acquire the ability to motivate and lead a team. The "powers of the office" concept does not work well with entrepreneurs.

Another equally important consideration is the physician's "backup" management style. How does the physician deal with problems? With stress? Many physicians have a domineering style that may be effective in a medical environment. However, in the business venture, a domineering style can create difficulties.

Other entrepreneurs and investors must communicate openly with the physician to resolve problems before they block venture completion. Many investors or fellow entrepreneurs feel intimidated by the physician's knowledge of medicine and fail to communicate concerns and adequately discuss issues.

### Support Systems

Physicians must develop adequate support systems for their involvement in a new venture, including personal business advisors who can help them with their personal and practice finances and tax planning. They must find people to advise them how to maintain their involvement in their practice institutions, while devoting time and energy to the new ventures, and to help them review their performance in the venture. They need personal sounding boards for their ideas.

### What Works

Several key factors are present in successful medical ventures. These include:

- ► The physician is committed to the venture — not just committed to the medical component of the venture, but to making sure that the venture succeeds in all aspects of its operation.
- ► Physician involvement is well thought out, and clearly defined goals and objectives have been written and agreed upon.
- ► Expectations are shared by all parties involved. Everyone understands what the physician will do, what the investors will do, and what the other entrepreneurs will do.

### What Doesn't Work?

Conversely, the following are often true in ventures that fail:

- ► Roles are not clearly defined. Confusion develops over who will do what.
- ► The physician was "playing businessman," by getting involved in areas where he has interest but no skills.
- ► Deals have been structured without full agreement of all parties.
- ► The team concept has been lost. All members of the business must be team players. After all "business is a team sport," and when a group loses sight of that, the probability of success drops considerably.

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*George M. Heenan is chairman of the board, secretary, and chief executive officer of Medilase, Inc. He is also chairman of the board, chief executive officer, and president of Medical Wellness Technologies, Inc., and has been active in the venture capital and venture development business as a private investor.*

*The summary was provided by* New Venture Review Minnesota, *a recently launched journal that follows entrepreneurship and the venture capital industry in Minnesota. NVR provides a clearinghouse of information for entrepreneurs and venture investors.*

## **Biotechnology** from page 75

continue to flourish in Minnesota. "The Institute for Advanced Studies in Biological Process Technology at the University of Minnesota," she says, "is at the forefront of working out ways to produce molecules in large commercial scale quantities." The Biomedical Engineering Center at the University of Minnesota, still in its planning stages, "will recruit first-rate scientists and provide them the facilities and means to achieve revolutionary new biological products."

Biotechnology is providing the diagnostic tools to develop rapid methods in detecting genetic diseases and viral infections and is employing recombinant DNA technologies to develop safer vaccines for disease prevention. The potential of biotechnology is limitless, perhaps eventually providing us the key to unraveling mysteries like herpes and AIDS.

### Acknowledgment

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*Gay Herzberg, a freelance writer covering biotechnology and medicine, was formerly the staff writer for the Minnesota Council on Biotechnology.*

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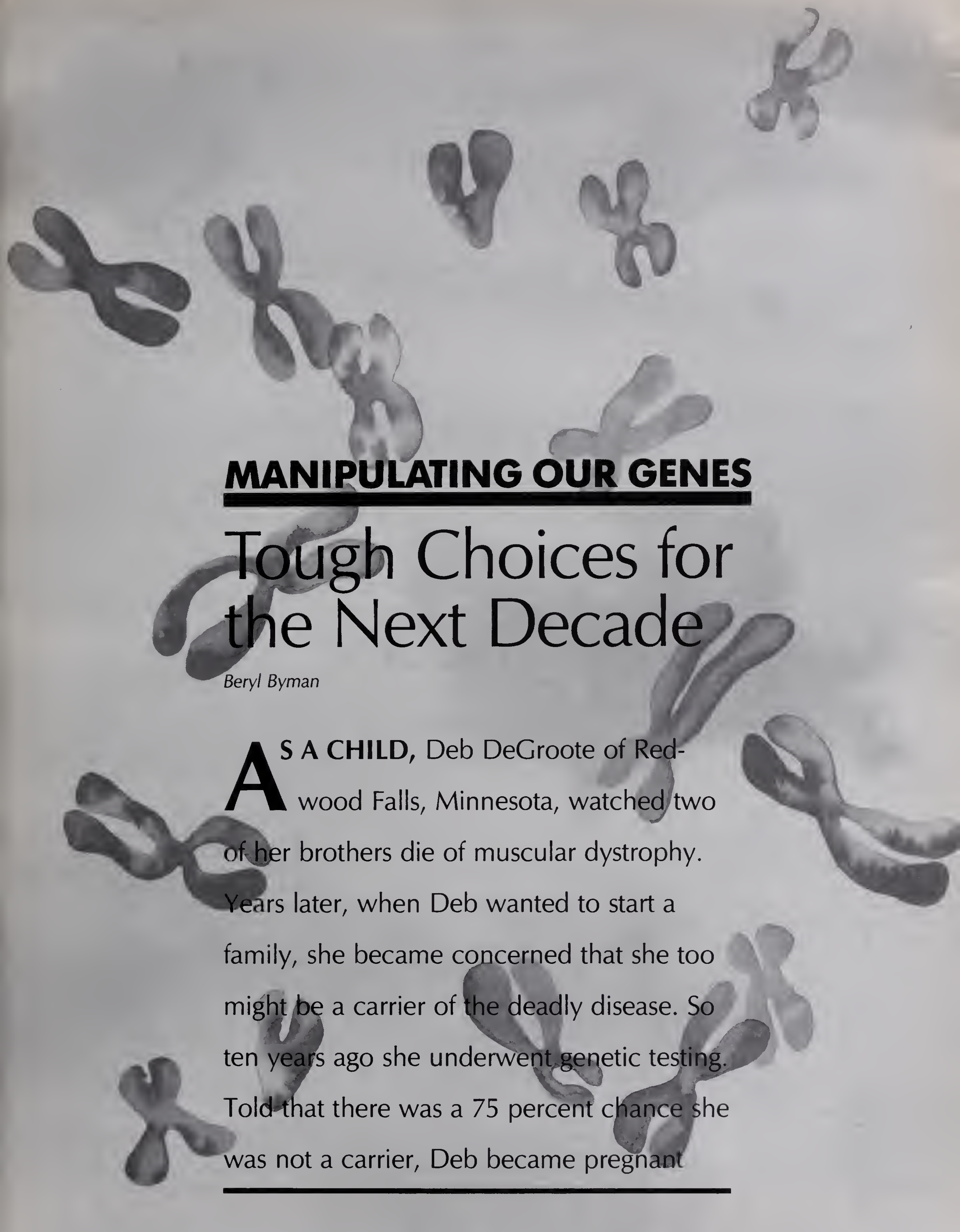


## MANIPULATING OUR GENES

# Tough Choices for the Next Decade

*Beryl Byman*

**AS A CHILD,** Deb DeGroote of Redwood Falls, Minnesota, watched two of her brothers die of muscular dystrophy. Years later, when Deb wanted to start a family, she became concerned that she too might be a carrier of the deadly disease. So ten years ago she underwent genetic testing. Told that there was a 75 percent chance she was not a carrier, Deb became pregnant and gave birth to a son, John. Today, she watches helplessly as John grows weaker every day with muscular dystrophy.

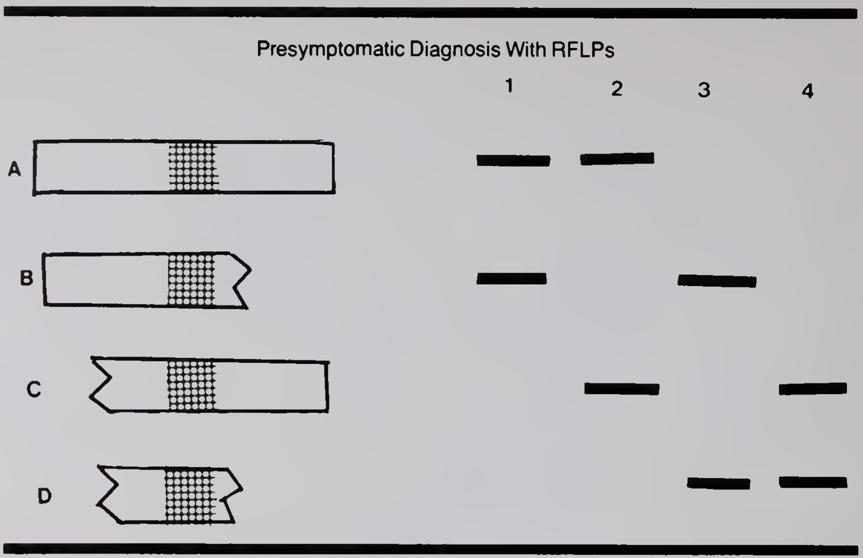
In 1986, Deb's sister Sue Stephens, also considered pregnancy. With her sister's encouragement, Sue went to a genetic counselor and proceeded to have an extensive family history taken. In addition she had a number of sophisticated new tests including a chorionic villus sample and a muscle biopsy. Encouraged by results that indicated there was 98 percent chance she was not a carrier, Sue became pregnant. In October 1987, Sue gave birth to a healthy boy.

"Medicine is being revolutionized by genetics," says John Fletcher, chief of the bioethics program of the National Institutes of Health. Today, as a result of the spectacular success of genetic science, we are on the verge of rewriting the script for thousands of people who, because of an unlucky draw of the genetic "lottery of life," have been sentenced to a debilitating disease or an early death.

Since Watson and Crick first described the structure of DNA in 1953, scientists have been rapidly unraveling the mysteries of hereditary disease. But since we can still only predict the risk of hereditary disease and not provide the cure, we are faced with serious ethical dilemmas. Even as we debate these dilemmas, the genetics laboratory is yielding information that may cure disease, produce new drugs, and supply accurate diagnostic tools.

> **How do we weigh the *possibility* of disease against the *certainty* of disease?**

More than 3,000 genes are known to be associated with inherited diseases. Five percent of all children are born with readily identifiable genetic diseases such as Duchenne's muscular dystrophy or Down's syndrome. But if we consider genetic diseases that appear later in life such as Alzheimer's or diabetes, the percentage rises to fifteen. And more and more diseases are thought to have genetic origins: heart disease, multiple sclerosis, breast cancer, manic depression, schizophrenia, and alcoholism.


Presymptomatic Diagnosis With RFLPs

**The RFLP marker for the Hungtington's disease gene has four different alleles, A, B, C, D, determined by variations in restriction enzyme binding sites. All can be identified by the same probe, left. When these DNA strands are subjected to gel electrophoresis, they migrate, forming bands according to molecular weight, right. An affected man (1) has alleles A and B; his affected daughter (2), A and C; her husband (3), B and D; and their son (4), C and D. Because the child has not inherited A, the allele associated with the disease in that family, there is a 96% chance that he will not be affected.** (Reprinted, with permission, from JAMA 258 (9): 1133, Sept. 4, 1987. Copyright 1987, American Medical Association.)

Only recently, scientists have finished compiling a map of genetic signposts that will enable them to pinpoint, with great accuracy, the role that genes play in disease. This new map, which took five years to compile, will bring approximately 95 percent of all human genetic material within the network of genetic markers.

The map of genetic markers was made possible by a new technique: restriction fragment length polymorphism (RFLP) mapping. DNA fragments of varying lengths are produced by bacterial restriction enzymes that cut chromosomal DNA at specific base sequences. Each of these enzymes ordinarily will produce a characteristic pattern of DNA fragments of varying length. In addition, the enzyme will produce a different fragment pattern in a person with genetic disease whose DNA has a different base sequence. This altered pattern of fragments is referred to as restriction fragment length polymorphism.

This technique usually does not detect the disease-causing gene itself; instead it indicates that portion of the chromosome closely associated with the gene. If the RFLP appears in all members of a family with the disease and in none who are well, that RFLP is strongly linked with the disease-causing gene and is a good marker for the disease.

Today, a woman like Sue Stephens can take advantage of these diagnostic techniques to find out if she and her baby are at risk for a hereditary disease. Bonnie LeRoy, a genetic counselor at The University of Minnesota Hospital and Clinic, says that her typical patients include women over the age of 35 who delay pregnancy until their careers are established or women who have a history of familial disease. LeRoy and her colleagues take an extensive family history and gather information on the pregnancy and possible teratogenic exposure. She then explains to the patient what kinds of tests are available and the risks involved in testing. Some of her patients will choose to have prenatal testing and some will not. Those who choose to proceed will undergo tests that are far more complex than those used years ago and require expert specialists to interpret their findings.

When Bonnie LeRoy presents the test results to her patients, she gives them a number of options if their baby is at risk for a disease. For some birth defects—a heart defect, for example—couples may choose to deliver the baby at an institution where cardiac surgery can take place immediately and specialized postnatal care is available.

Some people just want to have the information. They will start looking for special schools and support groups of families that are similarly affected to help them cope with anticipated problems. Others decide to continue the pregnancy through delivery and place the baby for adoption. Many choose to terminate the pregnancy. In all of these cases, the primary role of genetic centers, according to LeRoy, is to provide people with information that enables them to make informed decisions then offer support for these decisions.

But Arthur Caplan, director of the University of Minnesota Center for Biomedical Ethics, assails "the so-called value neutrality stance of those who provide the technology." He contends that those in the field of human genetics are not realistic in believing that they merely provide information—that they are just letting someone know they may carry the gene for a particular disease. Clearly, he says, physicians would not suggest that patients be tested for genetic disorders if the physicians did not believe the possible condition was dysfunctional or disabling. Caplan argues that genetic medicine will force the medical community to come out of its cocoon and say, " 'There is such a thing as genetic disease. We can't cure many of these diseases but nonetheless, they are problems.' If people don't want to have more children or want to stop pregnancies, then that is an acceptable position. It doesn't do any good to hide from those who believe in a sanctity of life standard or who worry about the impact on the disabled . . . no one anywhere just gives information."

Instead, he says, "information always comes with a slant, a twist, a kind of spin on it that has existed as long as genetic screening has been around."

**Information always comes with a slant, a twist, a kind of spin on it that has existed as long as genetic screening has been around.**

Many people though do not welcome this new genetic knowledge. Some families find themselves burdened by the choices and look longingly back to the old days when they took their chance in the genetic "role of the dice." Caplan believes that physicians should tell people who want to know this information, but he is not in favor of forcing people to know or forcing people to be tested. "The knowledge that you will become demented in mid-life or that a terminal illness will strike you down is a heavy burden to live under," Caplan says.

One of the great dilemmas in genetic testing is that many of the diseases that can be screened cannot be cured or treated. Columbia University neuropsychologist Nancy Wexler faces that dilemma daily. Wexler, who is also president of the Hereditary Disease Foundation, is at risk for Huntington's disease, the genetic disease that killed her mother. Carriers of the Huntington's gene will almost certainly get sick and die. Recently, a test was developed that can predict the disease with 96 percent accuracy. But Wexler has reservations about taking the test.

"When I first found out that I was at risk for Huntington's disease, I couldn't wait to find out if I had it. I've always thought taking a test would be a wonderful thing to do. But my thinking about the test has changed in the last four years. The results of the test have the potential to be extremely traumatic. It's hard to imagine how depressed you might be if you have a test that says this (dementia and early death) is going to be your future."

Each hereditary disease, however, presents different choices regarding testing and disclosure. A patient may choose not to test for Huntington's because of the high probability of developing the disease if the test is positive and because Huntington's can be neither cured nor prevented. On the other hand, people who inherit the gene for manic-depressive illness have approximately a 60 percent chance of developing the disease as an adult. It is highly questionable whether a physician should tell someone that she or he has a 60 percent chance of developing a formidable psychiatric disorder in young adulthood, when there is a 40 percent chance it will not occur.

The new genetic knowledge opens the field for further research possibilities. For instance, what type of intervention might decrease the number of those people with the gene who develop manic-depressive illness? Are there means to predict who will be among the 60 percent who succumb to the disorder?

Additional studies will lend fuel to the fires of the nature vs. nurture debate about the origin of mental illness, and the fact that more than one gene can cause mental disorders will further complicate speculation. According to genetic counselor Ricki Lewis (*Issues in Science and Technology*, Fall 1987, p. 79), "A dominant form of manic-depressive illness has been linked to the tip of chromosome 11 in a large Amish family, and to the X chromosome in five Jewish families in Jerusalem. But in Icelandic families with a history of the illness, the disorder was not linked to either chromosomal location. This suggests that manic-depressive illness, which affects one percent of the U.S. population, can be inherited in several ways."

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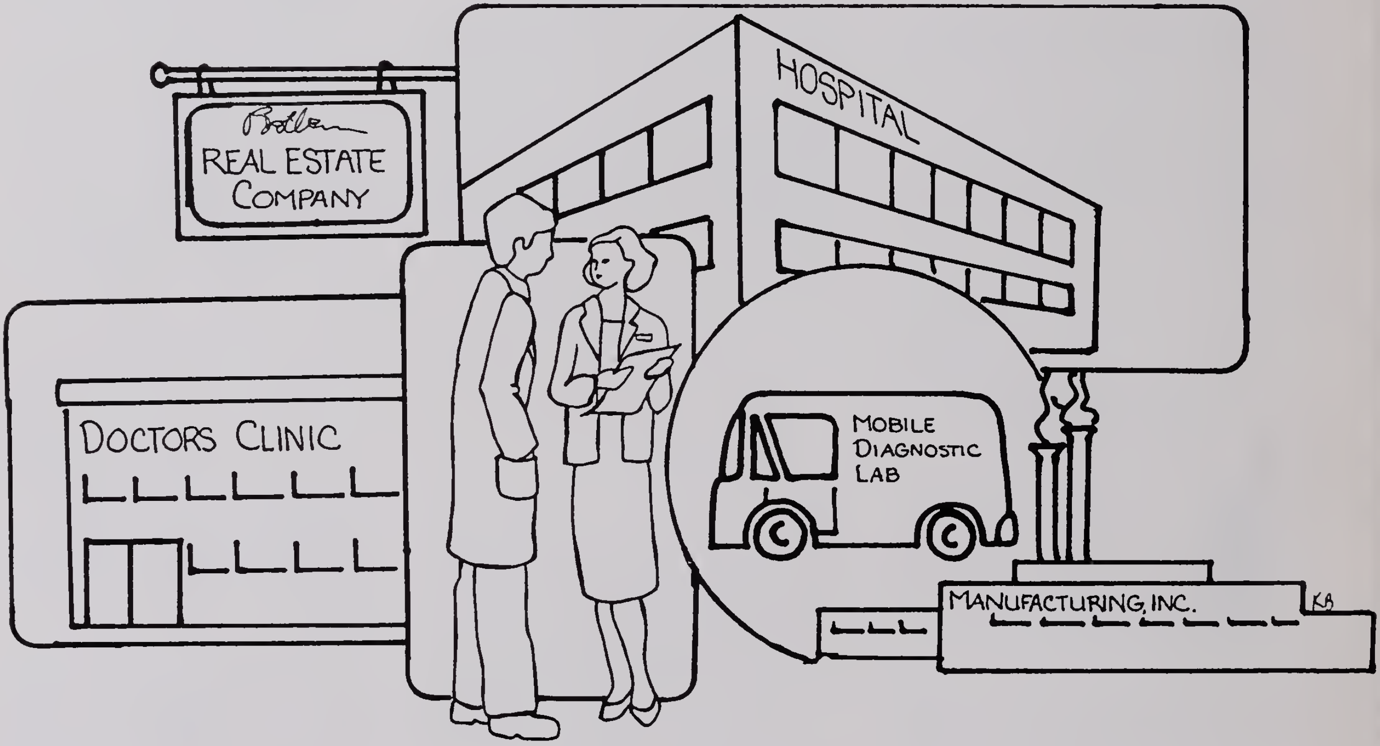

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The moral and ethical dilemmas resulting from genetic medicine are tough and complex. The arguments go to the heart of what medicine is all about. What do we want from health care? What is a disease? Where is the boundary between curing and manipulation? On one hand, most people would agree that it is necessary to intervene if a fetus is at risk for muscular dystrophy or Tay-Sachs disease. On the other hand, what kinds of intervention are appropriate for those who will develop Huntington's or Alzheimer's late in life? Many might argue that it is justifiable to terminate a life that would last for only one or two years; but can we justify stopping a life that will be productive and normal for many years? What will our stance be when we know that a fetus is at risk for a debilitating but nonfatal disease such as asthma or diabetes? And how do we weigh the *possibility* of disease against the *certainty* of disease?

In addition, will we go one step further and intervene in conditions that do not involve disease? Is testing and intervention appropriate for men who believe they are not tall enough or for women who wish to have bigger breasts?

Arthur Caplan asks, "What God does medicine serve? Is it serving the God of Health? Is it serving people's whims? Their passions? Is there some underlying purpose that could be said to define these interventions?"

The issue of testing for sex highlights the dilemma of genetic screening. For example, we now have techniques that can determine whether a fetus is male or female. A mother may say, "I have three boys and now want a girl," or "I don't like girls and prefer boys." Should we allow this woman access to genetic testing for that kind of "condition?"

Today, most physicians draw the moral line between the use of genetics to detect disease, and genetic manipulation to produce individuals who are male, female, taller, or smarter. But the moral line often changes imperceptibly with time. At one time, most genetic centers refused to test for the sex of a child. But John Fletcher of NIH and his colleagues have just completed a study indicating that in the past ten years, geneticists have become increasingly willing to help parents select the sex of their child. According to Fletcher, "Physicians, and especially medical geneticists, used to draw the line to say that using prenatal diagnosis to select the gender of children is wrong . . . that they wouldn't do that." But in the recent survey, 60 percent said they would not discourage this practice, 28 percent said they would help parents select the gender of their children, and the remaining 12 percent said they would refer the family to someone who would. "This is a radical change from the seventies," Fletcher concludes, "when fewer than 5 percent said they would not act in a discouraging way toward this practice." Because this shift in sentiment illustrates how moral boundaries can waver, Fletcher questions the willingness of practitioners to accept and abide by limits.

**Today, most physicians draw the moral line between the use of genetics to detect disease, and genetic manipulation to produce individuals who are male, female, taller, or smarter.**

Some see even more danger lurking in the future, particularly regarding public policy and privacy issues. One public policy challenge facing our society will be how we cope with third parties who have an interest in obtaining genetic information about individuals: insurance companies, prepaid medical plans, and employers will all want to have access to this information. Historically, in the United States, insurance companies have been given the right to screen people at risk. But the potential for misuse is great. Caplan warns that we must be cautious about misuse of information because most of the time the results indicate a predisposition to a particular disease but not to certain outcomes. We do not want to penalize people for probability, as has happened in the past.

A case in point is sickle cell anemia. A target population was identified—the black population—and testing proceeded full scale. The carrier rate for sickle cell anemia is one in ten. So blacks who went into the hospital for any condition were tested for sickle cell, whether or not they requested the test. If the results were positive, the person was told to have his or her spouse tested to avoid having children with the disease.

To complicate matters, the insurance companies obtained the information and assumed incorrectly that people who had sickle cell traits were as ill as those who had the disease. According to Robert Gorlin, Regents Professor of Oral Pathology and Genetics at the University of Minnesota, insurance companies canceled policies, and many perfectly healthy blacks found themselves without insurance.

The solution to the dilemma of who gets the information, who should be tested, and how far the testing should go is quickly growing more complex. Take, for example, a large corporation that employs a number of executives who make more than $100,000 a year. If, in the future, we are going to know a great deal more about genetic predisposition to disease, and management could screen highly paid executives for their risk of early heart disease, would it be in the corporate interest to do so? If available, such information could be used against individuals.

John Fletcher believes that with the exception of public safety jobs such as airline pilots and bus drivers, it is best for third parties not to have access to this kind of information. As we have seen with AIDS, this information will serve no pur-

PHOTO COURTESY OF AGRICULTURAL RESEARCH SERVICE-USDA

**Animal physiologist Dr. Vernon Pursel of the Agricultural Research Service-USDA, examines a pig born with a bovine growth hormone gene inserted in the embryo through genetic engineering.**

pose to prospective employers except to discriminate against people with a disposition to a disease.

Currently, a lot of discretion is given to insurance companies, health care providers, and employers over what medical conditions can or cannot be tested. But Arthur Caplan maintains that "We must be very careful to protect people's civil liberties. Americans cherish the notion of dignity and individuality. If we wish to preserve these liberties, we may have to establish precedents that break the tie between eligibility for jobs and genetic make-up."

Meanwhile, as we debate these issues, the science of genetics is proceeding at breakneck speed. A new experiment is underway at the U.S. Department of Agriculture Research Laboratory in Beltsville, Maryland. The object of controversy is a big-snouted, cross-eyed, bow-legged pig that seldom gets up because its legs are distorted with arthritis. But it is considered a great success. The young pig inherited the gene for bovine growth hormone that scientists injected into the pig's father, and the gene expressed itself. The purpose of the experiment that resulted in this bizarre creation was to produce an animal that grows faster, eats less, and provides more lean meat.

This pig was the focus of a heated controversy that left in its wake a moratorium on the patenting of new animal life. A coalition, led by Jeremy Rifkin, president of the Washington-based Foundation on Economic Trends, claims that the research, if extended to humans, will lead to a narrowing of the human gene pool, as well as ecological havoc. "We have now," Rifkin claims, "transgenic rats in the laboratories with human growth hormones in their permanent genetic code." Invoking the specter of a genetically created Frankenstein, Rifkin describes rats that grow twice as fast to sexual maturity and twice as big. According to him, "it is not stretching the realm of possibility to suggest that one rat might get out of the laboratory, mate with its counterparts," and wreak havoc upon cities. Rifkin goes even further to state that genetic engineering represents a fundamental threat to the preservation of humankind and should be opposed with the same conviction as the threat of nuclear annihilation.

Rifkin's coalition includes Michael Fox, scientific director of the Humane Society of the United States, who believes that "the inherent nature of an animal needs to be respected." Another member of the coalition, Howard Lyman, expressed farm organizations' fears that the genetic engineering of animals will result in fewer choices of animal breeds. Yet another member of the coalition is Rabbi David Saperstein, director of the Religious Action Center for Reformed Judiasm. Saperstein says that religious organizations are concerned that the new technology is running too fast to allow us to consider social and philosophical issues regarding the sanctity of life.

For those who are at risk for genetic disease, these arguments do not have much relevance. For Nancy Wexler of Columbia University, there is a special urgency to continue research. Every year, she and a group of researchers travel to Venezuela where there is a large community of people who have Huntington's disease; about one hundred of the children alone have a 50-50 risk for the disease. "For me," Wexler says, "it is absolutely tragic to see lovely children who will degenerate and die. It will happen again and again unless there is a cure."

In fact, the Andromeda strains predicted by the critics when gene-splicing was invented in the early 1970s have not materialized, and to suppress the genetic research and therapy may be to deny cures for cancer, heart disease, and birth defects.

What will the future bring? Arthur Caplan says we will probably have to ask a "designed descendent" whether or not we have made good decisions.

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*Beryl Byman was working as a freelance radio producer for Minnesota Public Radio-KLSE when she conducted research for this article. The information was part of a four-part radio series on medicine and technology. Ms. Byman is now director of Community Relations and Development at Winona State University in Rochester, Minnesota.*

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1. For therapeutic use in patients with hypokalemia with or without metabolic alkalosis, in digitalis intoxication and in patients with hypokalemic familial periodic paralysis.

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3 The use of potassium salts in patients receiving diuretics for uncomplicated essential hypertension is often unnecessary when such patients have a normal dietary pattern. Serum potassium should be checked periodically, however, and if hypokalemia occurs, dietary supplementation with potassium-containing foods may be adequate to control milder cases. In more severe cases supplementation with potassium salts may be indicated.

**CONTRAINDICATIONS:** Potassium supplements are contraindicated in patients with hyperkalemia since a further increase in serum potassium concentration in such patients can produce cardiac arrest. Hyperkalemia may complicate any of the following conditions: Chronic renal failure, systemic acidosis such as diabetic acidosis, acute dehydration, extensive tissue breakdown as in severe burns, adrenal insufficiency, or the administration of a potassium-sparing diuretic (e.g , spironolactone, triamterene).

Wax-matrix potassium chloride preparations have produced esophageal ulceration in certain cardiac patients with esophageal compression due to enlarged left atrium.

All solid dosage forms of potassium chloride supplements are contraindicated in any patient in whom there is cause for arrest or delay in tablet passage through the gastrointestinal tract. In these instances, potassium supplementation should be with a liquid preparation.

**WARNINGS: Hyperkalemia**—In patients with impaired mechanisms for excreting potassium, the administration of potassium salts can produce hyperkalemia and cardiac arrest. This occurs most commonly in patients given potassium by the intravenous route but may also occur in patients given potassium orally. Potentially fatal hyperkalemia can develop rapidly and be asymptomatic. The use of potassium salts in patients with chronic renal disease, or any other condition which impairs potassium excretion, requires particularly careful monitoring of the serum potassium concentration and appropriate dosage adjustment.

**Interaction with Potassium Sparing Diuretics**—Hypokalemia should not be treated by the concomitant administration of potassium salts and a potassium-sparing diuretic (e.g., spironolactone or triamterene) since the simultaneous administration of these agents can produce severe hyperkalemia.

**Gastrointestinal Lesions**—Potassium chloride tablets have produced stenotic and/or ulcerative lesions of the small bowel and deaths. These lesions are caused by a high localized concentration of potassium ion in the region of a rapidly dissolving tablet, which injures the bowel wall and thereby produces obstruction, hemorrhage or perforation.

K-DUR tablets contain micro-crystalloids which disperse upon disintegration of the tablet. These micro-crystalloids are formulated to provide a controlled release of potassium chloride. The dispersibility of the micro-crystalloids and the controlled release of ions from them are intended to minimize the possibility of a high local concentration near the gastrointestinal mucosa and the ability of the KCl to cause stenosis or ulceration. Other means of accomplishing this (e.g., incorporation of potassium chloride into a wax matrix) have reduced the frequency of such lesions to less than one per 100,000 patient years (compared to 40–50 per 100,000 patient years with enteric-coated potassium chloride) but have not eliminated them. The frequency of GI lesions with K-DUR tablets is, at present, unknown. K-DUR tablets should be discontinued immediately and the possibility of bowel obstruction or perforation considered if severe vomiting, abdominal pain, distention, or gastrointestinal bleeding occurs.

**Metabolic Acidosis**—Hypokalemia in patients with metabolic acidosis should be treated with an alkalinizing potassium salt such as potassium bicarbonate, potassium citrate, potassium acetate, or potassium gluconate.

**PRECAUTIONS:** The diagnosis of potassium depletion is ordinarily made by demonstrating hypokalemia in a patient with a clinical history suggesting some cause for potassium depletion. In interpreting the serum potassium level, the physician should bear in mind that acute alkalosis per se can produce hypokalemia in the absence of a deficit in total body potassium while acute acidosis per se can increase the serum potassium concentration into the normal range even in the presence of a reduced total body potassium. The treatment of potassium depletion, particularly in the presence of cardiac disease, renal disease, or acidosis requires careful attention to acid-base balance and appropriate monitoring of serum electrolytes, the electrocardiogram, and the clinical status of the patient.

**Laboratory Tests:** Regular serum potassium determinations are recommended. In addition, during the treatment of potassium depletion, careful attention should be paid to acid-base balance, other serum electrolyte levels, the electrocardiogram, and the clinical status of the patient, particularly in the presence of cardiac disease, renal disease, or acidosis.

**Drug Interactions:** Potassium-sparing diuretics; see **WARNINGS.**

**Carcinogenesis, Mutagenesis, Impairment of Fertility:** Long-term carcinogenicity studies in animals have not been performed.

**Pregnancy Category C:** Animal reproduction studies have not been conducted with K-DUR. It is also not known whether K-DUR can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. K-DUR should be given to a pregnant woman only if clearly needed.

**Nursing Mothers:** The normal potassium ion content of human milk is about 13 mEq per liter. Since oral potassium becomes part of the body potassium pool, so long as body potassium is not excessive, the contribution of potassium chloride supplementation should have little or no effect on the level in human milk.

**Pediatric Use:** Safety and effectiveness in children have not been established.

**ADVERSE REACTIONS:** One of the most severe adverse effects is hyperkalemia (see **CONTRAINDICATIONS, WARNINGS,** and **OVERDOSAGE).** There have also been reports of upper and lower gastrointestinal conditions including obstruction, bleeding, ulceration, and perforation (see **CONTRAINDICATIONS** and **WARNINGS)**; other factors known to be associated with such conditions were present in many of these patients.

The most common adverse reactions to oral potassium salts are nausea, vomiting, abdominal discomfort, and diarrhea These symptoms are due to irritation of the gastrointestinal tract and are best managed by taking the dose with meals or reducing the dose.

Skin rash has been reported rarely.

**OVERDOSAGE:** The administration of oral potassium salts to persons with normal excretory mechanisms for potassium rarely causes serious hyperkalemia. However, if excretory mechanisms are impaired or if potassium is administered too rapidly intravenously, potentially fatal hyperkalemia can result (see **CONTRAINDICATIONS** and **WARNINGS**). It is important to recognize that hyperkalemia is usually asymptomatic and may be manifested only by an increased serum potassium concentration and characteristic electrocardiographic changes (peaking of T-waves, loss of P-waves, depression of S-T segment, and prolongation of the QT-interval). Late manifestations include muscle-paralysis and cardiovascular collapse from cardiac arrest.

Treatment measures for hyperkalemia include the following.

1. Elimination of foods and medications containing potassium and of potassium-sparing diuretics.
2. Intravenous administration of 300 to 500 ml/hr of 10% dextrose solution containing 10–20 units of insulin per 1,000 ml.
3 Correction of acidosis, if present, with intravenous sodium bicarbonate.
4. Use of exchange resins, hemodialysis, or peritoneal dialysis.

In treating hyperkalemia, it should be recalled that in patients who have been stabilized on digitalis, too rapid a lowering of the serum potassium concentration can produce digitalis toxicity

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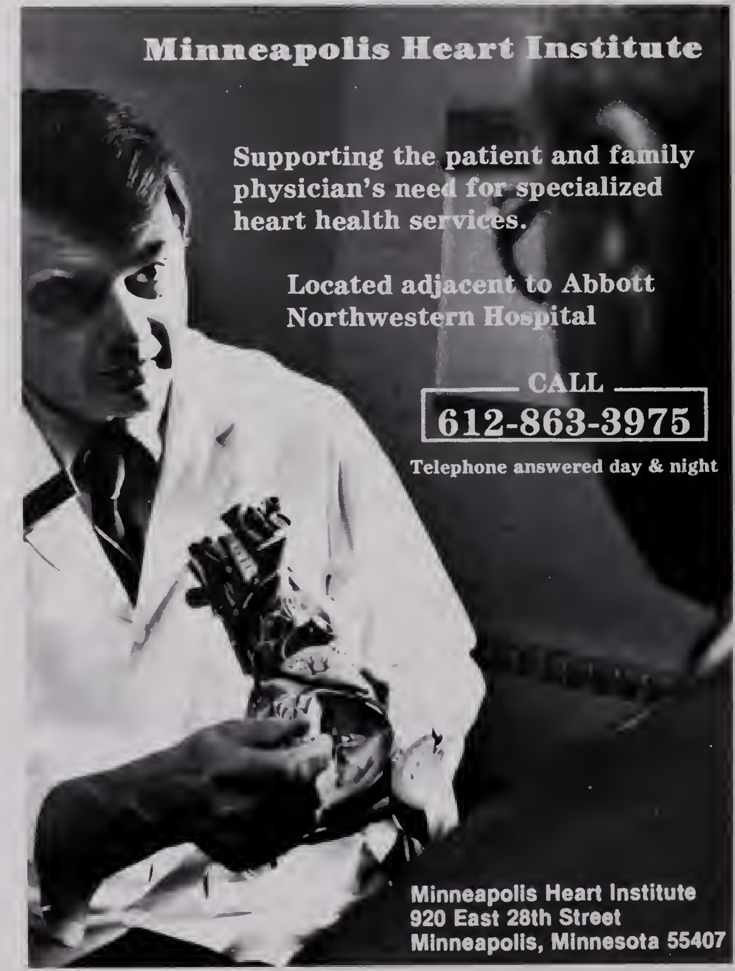

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# Recent Advances in the Treatment of Urinary Calculi

*John C. Hulbert, M.D., F.R.C.S.*

**Dramatic and fundamental changes have taken place in the treatment of urinary stone disease over the past decade. These changes include the development of percutaneous renal surgery, ureterorenoscopy, and extracorporeal shock wave lithotripsy. These new techniques are described and the relative role of each in the current management of urinary calculi is discussed.**

Urinary calculi have afflicted man since prehistoric times, and attempts to relieve the resultant suffering gave rise to the specialty of urology. Initially, only bladder stones were amenable to treatment; these were removed without any form of anesthesia by the perineal approach. Those patients who were fortunate enough to survive were a credit more to their own fortitude and endurance than to the skill and speed of the medieval lithotomists. Subsequent developments in anesthesia and antisepsis permitted the removal of not only bladder stones, but of stones in the upper urinary tract, with less necessity for haste and fewer complications. Refinement of anesthesia and antisepsis in this century, combined with advances in standards of patient management, have permitted the safe surgical removal of almost all urinary calculi. The techniques of endoscopy, which were first developed in the mid-19th century, allowed successful manipulation of calculi in the bladder and lower ureter by the transurethral route.

As of a decade ago, open surgery was the accepted approach for stones in the renal collecting system and middle to upper ureter (i.e., above the level of the sacroiliac joint), and retrograde stone manipulation by cystoscopy was used for stones in the lower ureter. The latter technique involved the insertion of a basket up the ureter, followed by attempts to engage the stone blindly. These once securely established techniques, which are now practically obsolete, have been superseded rapidly by the development of percutaneous renal surgery, ureterorenoscopy, and extracorporeal shock wave lithotripsy.

## Percutaneous Renal Surgery

Percutaneous puncture of the upper urinary tract became possible with the development of a clear understanding of three-dimensional renal arterial and caliceal anatomy,[1] and with advances in fluoroscopic techniques to allow continuous imaging of the kidney. Percutaneous puncture initially was used only for inserting nephrostomy tubes to drain obstructed kidneys. Only dilated collecting systems were punctured at first, but as physician skill increased, even nondilated renal collecting systems were punctured accurately and with relative impunity. However, manipulation of upper urinary tract calculi through such small percutaneous tracts did not permit any but the smallest calculi to be removed, and it became necessary to develop techniques for dilating the nephrostomy tract to the kidney.

Dilatation initially was performed with a system of coaxial dilators, which more recently have been superseded by balloon fascial dilators.[2] Both types of dilators allow rapid dilatation of the nephrostomy tract so that a sheath can be inserted from the skin to the inside of the collecting system. The sheath not only tamponades bleeding from the tract, but also permits access to the interior of the collecting system for fluoroscopic manipulation and endoscopic visualization. At first, urologists used cystoscopes to look inside the kidney, but specially designed nephroscopes soon were developed so that stones could be removed under direct visual control with suitable grasping forceps. Larger stones, however, could not be removed through the standard tract of 24 to 30F; thus, techniques for disintegrating stones *in situ* were developed.

Electrohydraulic lithotripsy initially was used to disintegrate stones *in situ*. This technique involves the direct application of a shock wave to a stone with a probe that is placed adjacent to the stone under endoscopic control. The stone fractures somewhat dramatically by this technique, but the resulting stone fragments must then be removed piecemeal. Electrohydraulic lithotripsy has largely been replaced by ultrasonic lithotripsy. This technique, which also involves the direct application of a probe to the stone, pulverizes the stone more gently and simultaneously suctions the fragments through the center of the probe and out of the kidney (Figure 1). Large staghorn calculi can be removed by percutaneous lithotripsy, although more than one puncture into the kidney may be required in order to remove the entire stone.

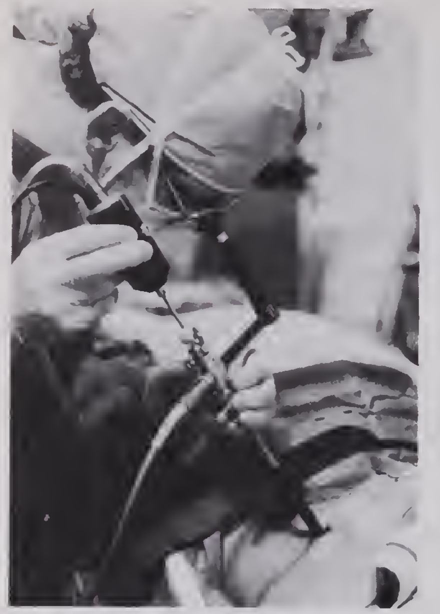

FIGURE 1 - Disintegration of kidney stone percutaneously using ultrasonic lithotripter.

The anticipated adverse effects of percutaneous stone removal on the kidney, such as localized renal infarction and hypertension, have not materialized. When percutaneous stone removal is performed by skilled operators, the complications are minimal. The hospital stay for patients who undergo percutaneous techniques is approximately 2 to 3 days, as compared with 7 to 10 days for open surgical techniques. Moreover, the convalescence period is greatly reduced as compared with that for open surgery.

## Ureterorenoscopy

As urologic endoscopic instruments became more refined, the possibility of passing delicate instruments up into a narrow ureter was envisioned. Ureterorenoscopes are now in routine use and may be passed up the ureter and into the renal pelvis for inspection of the entire ureter.[3] The ureterorenoscope is delicate, but rigid, and can cause considerable trauma to the ureter if not used with care. The ureteral orifice must be dilated with a balloon or metal dilator before the ureterorenoscope is inserted. Once the instrument is inside the ureter, stones within the ureter can be visualized and basketed under direct vision. This is a considerable advantage over the former technique of "blind" stone-basketing. In addition, the ureterorenoscope can be used for diagnostic purposes such as identifying, and even resecting, small ureteral tumors.

In skilled hands, the rigid ureterorenoscope can be used successfully in nearly 100 percent of patients with lower ureteral stones, and in 50 to 60 percent of those with upper ureteral stones. Passing the instrument into the upper ureter is considerably more difficult and requires greater expertise. Electrohydraulic and ultrasonic lithotripsy can also be performed through the ureterorenoscope in much the same way as these techniques are performed through the nephroscope to disintegrate stones in the kidney. Another technique, flexible ureterorenoscopy, is still in its infancy but offers an even less traumatic way to examine the ureter. This technique should become routine over the next few years.

## Extracorporeal Shock Wave Lithotripsy

While the techniques of percutaneous renal surgery and ureterorenoscopy were being developed, a remarkable technique that disintegrates kidney stones noninvasively was also being developed in West Germany.[4] The technique, extracorporeal shock wave lithotripsy (ESWL), generates shock waves with a spark-gap electrode and focuses them directly onto a kidney stone via an elliptical dish.[5] The patient is partially immersed in a large bath of water that has been de-gassed to remove air bubbles (Figure 2). The shock waves pass through the water in the bath and the patient's body tissues without difficulty but dissipate when they encounter a medium of substantially different density, such as the calculus, thus disintegrating it. This process has been described by Mulley as the "well-engineered, highly selective application of brute force."[6] The principle behind

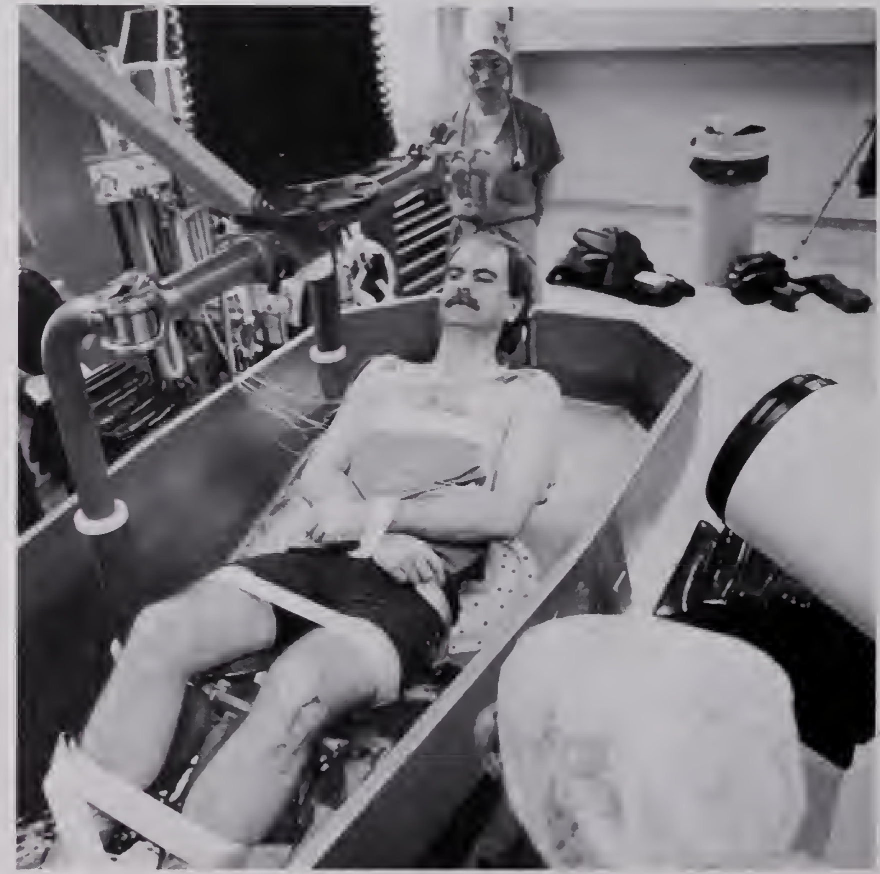

FIGURE 2 - Patient immersed in lithotripter bath prior to ESWL.

ESWL was discovered when scientists stress-testing aircraft frames in West Germany observed that raindrops striking the fuselage set off high-energy shock waves.

The lithotripter consists of a bath, a biplanar fluoroscopic unit, and a hydraulic hoist system that moves the patient and allows precise positioning of the stone at the focal point of the shock wave ellipsoid (Figure 3). The patient is positioned under fluoroscopic control. Once the stone is localized accurately, shock waves are administered until the stone is pulverized or until a maximum of 2,400 shock waves are administered in any one session. The patient then must pass the stone fragments down the ureter and out in the urine, which may result in significant ureteral colic in some patients. The larger the stone volume, the greater the possibility of significant complications owing to obstruction of the kidney by stone fragments.[7] It is customary to perform ESWL while patients are under general or epidural anesthesia. The hospital stay ranges from 24 to 36 hours, and patients frequently return to work within a day or two of discharge from the hospital. Careful follow-up is essential to ensure that the stone fragments are passing satisfactorily and that no significant complications are developing.

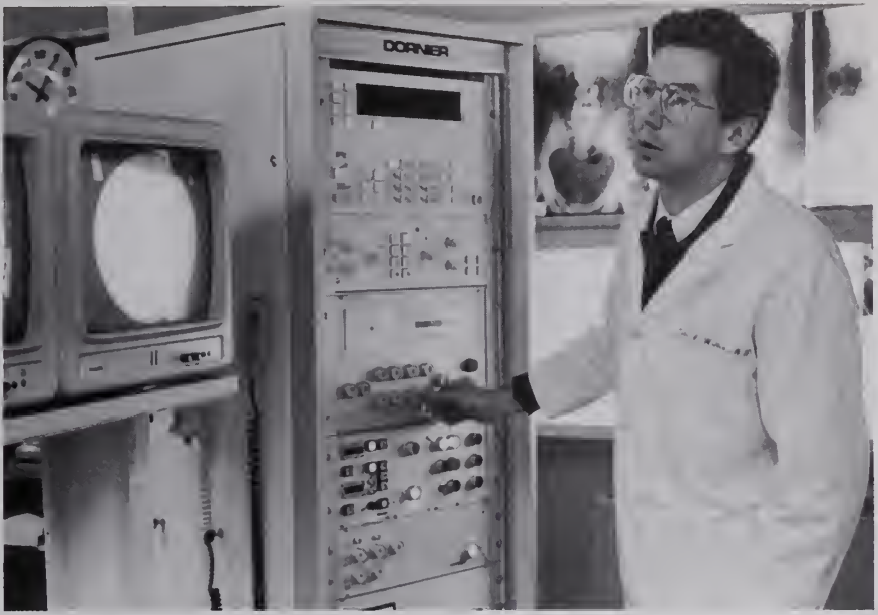

**FIGURE 3 - Electronic control unit is used to accurately position patient undergoing ESWL. Patient's stone must lie precisely at focal point of shock wave ellipsoid.**

## The Relative Roles of Percutaneous Renal Surgery, Ureterorenoscopy, and ESWL

Because of the recent, almost concurrent development of these three techniques, much confusion has arisen over the relative role of each for the management of urinary calculi. However, the experiences of many major medical centers have helped to determine the relative role of each technique. Extracorporeal shock wave lithotripsy alone is suitable in about 70 to 80 percent of patients with stones in the upper urinary tract. This technique by itself is rarely suitable for removing large stones (>3 cm in diameter), lower ureteral stones, deeply impacted stones in the middle to upper ureter, cystine stones, stones in obese patients or those with cardiac pacemakers, some radiolucent stones, and stones in patients with obstructed kidneys. In these cases, percutaneous techniques frequently are required either alone or in combination with ESWL.

Ureterorenoscopy alone is optimal for stones in the lower ureter. Stones in the middle to upper ureter can be managed successfully by ESWL if the stone can be manipulated back into the kidney, or if a stent can be inserted past the stone and into the kidney in a retrograde fashion. If the latter techniques are not feasible, it is preferable to perform a percutaneous or ureteroscopic procedure for stones in the middle to upper ureter. A standard procedure for large stones such as staghorn calculi consists of percutaneous lithotripsy to debulk the stone, followed by ESWL to disintegrate the remaining fragments.

The complications that were thought likely to occur with ESWL alone may well be prevented by the judicious use of percutaneous and ureteroscopic techniques before ESWL. The technique or combination of techniques used for each type of stone will depend on the skills of the surgeon and the technology that is available. However, it is clear that the most optimal treatment for renal and ureteral calculi currently requires the combined use of ESWL, percutaneous renal surgery, and ureterorenoscopy for the best results to be achieved.

The development of these three techniques has completely changed our perspective on the management of urinary stone disease. Open surgery for the removal of stones in the kidney or ureters has become virtually obsolete, except under unusual circumstances. Patients with urinary stone disease now have a greater willingness to seek treatment, knowing that less invasive procedures are available. What remains unchanged, however, is the importance of individualizing the treatment for each patient and of performing a careful metabolic evaluation in attempting to prevent stone recurrence. A continuing close relationship between urologists, radiologists, and nephrologists is required to ensure that the recent advances in the treatment of urinary stone disease are consolidated for the benefit of the patient.

---

*John Hulbert is an associate professor in the Department of Urologic Surgery at the University of Minnesota in Minneapolis.*

**Urinary Calculi** *references to page 98*

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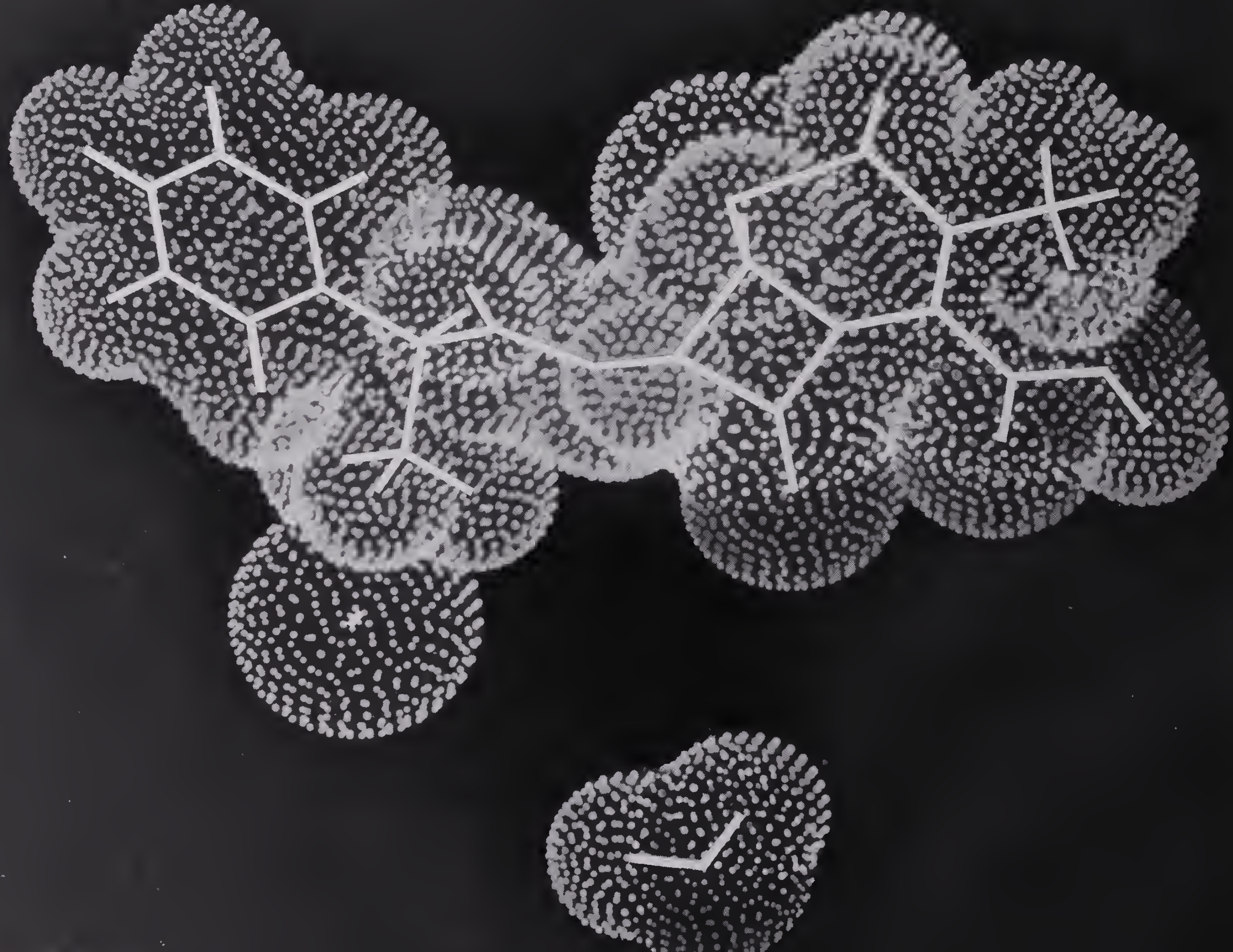

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- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy and lactation. Cephalexin is excreted in mother's milk. Exercise caution in prescribing Keftab for these patients.
- Safety and effectiveness in children have not been established.

**Adverse Reactions:**

- *Gastrointestinal,* including diarrhea and, rarely, nausea and vomiting. Transient hepatitis and cholestatic jaundice have been reported rarely.
- *Hypersensitivity* in the form of rash, urticaria, angioedema, and, rarely, erythema multiforme, Stevens-Johnson syndrome, or toxic epidermal necrolysis.
- *Anaphylaxis* has been reported.
- *Other reactions* have included genital/anal pruritus, genital moniliasis, vaginitis/vaginal discharge, dizziness, fatigue, headache, eosinophilia, neutropenia, and thrombocytopenia; reversible interstitial nephritis has been reported rarely.
- Cephalosporins have been implicated in triggering seizures, particularly in patients with renal impairment.
- *Abnormalities in laboratory test results* included slight elevations in aspartate aminotransferase (AST, SGOT) and alanine aminotransferase (ALT, SGPT). False-positive reactions for glucose in the urine may occur with Benedict's or Fehling's solution and Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

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# Magnetic Resonance Imaging — An Update

*David A. Larson, M.D., and Douglas H. Yock, Jr., M.D.*

Magnetic Resonance Imaging (MRI) is the newest and most complex imaging modality in medicine today. Although the technology continues to develop rapidly, MRI is already well established as an important diagnostic tool in many clinical settings.

## History

Nuclear magnetic resonance has been used extensively as a method of chemical analysis since it was described by Nobel laureates Purcell and Bloch in the late 1940s. A sample placed in a strong magnetic field and subjected to specific radio frequency signals gives off return signals that reflect its composition.

After the development of the CT scanner, engineers realized that many CT principles could be applied to magnetic resonance. The computerized localization of data used in CT was almost directly transferrable to imaging with magnetic resonance signals in place of X-rays. The resultant rapid development of MR through the late 1970s and early 1980s led to the highly refined technology available today.

## Basics and Vocabulary of MRI

Magnetic resonance imaging is based on the interaction of radio waves (radio frequency or "R.F." pulses) with nuclei of the body in the presence of a strong magnetic field. Most MRI images are pictures of hydrogen nuclei (protons) because hydrogen is abundant in the body and gives a strong MR signal. R.F. energy at a specific "resonant" wave length is absorbed by hydrogen nuclei in the area of interest. Energy is subsequently released by these nuclei, with characteristics of the tissue being examined. A variety of receiving antennas or "coils" are used to detect the energy as it is released from the body. The pattern of emerging radio waves is processed by a computer to form a tomographic matrix representing a slice of tissue.

The MRI signal reflects many tissue variables, in contrast to the relatively simple dependence of CT scanning on the single variable of electron density. The MRI signal from tissues also has a major time dependence, which is not present in CT scanning. For these reasons, MRI is much more complex to perform and interpret than CT.

The two most important tissue properties represented by the MR signal are the nuclear magnetic relaxation processes called "T1 relaxation" and "T2 relaxation." MR studies performed in a way that emphasizes the differences in T1 relaxation among tissues are said to be "T1-weighted." On T1-weighted scans, simple fluids (e.g., CSF or urine) appear dark or "low intensity." Such scans are often very useful to demonstrate anatomy and are relatively rapid to perform.

If the settings ("pulse sequence") of the MR scanner are programmed in a way that emphasizes the differences in T2 relaxation among tissues, the images are said to be "T2-weighted." On T2-weighted scans, simple fluids such as CSF or urine appear bright or "high intensity." T2-weighted scans take more time to perform but usually offer the most sensitive detection of pathology.

Several types of magnets can produce the strong external magnetic fields needed for MRI. By far the most commonly used is the "superconducting" electromagnet. These magnets use "cryogens" (liquid helium and often liquid nitrogen) to operate at an extremely low temperature—near absolute zero. At this temperature, the metal alloys used for the magnet's windings (currently niobium-titanium) lose all resistance to the passage of electrical current. Because of this superconductivity, the initial charge of electricity lasts indefinitely and the electromagnet is always "on."

The presence of the strong magnetic field and the dependence of MRI upon weak R.F. signals create special problems for locating these units in the complicated medical environment. The entire magnet room needs shielding to prevent environmental radio signals from being detected by the scanner's antennas. In most cases, a tight copper or stainless steel cage must be built into the walls of the magnet room. A second requirement is that the scanner's magnetic field must be far from outside magnetic effects created by moving ferrous objects such as vehicles or electric motors.

Finally, people and equipment must be shielded from the magnetic field of the scanner. This can be accomplished by distance, by counter fields generated within the gantry of the scan room, or by a steel shield around the gantry or scan room. Such steel cages used to confine the magnetic lines of force may be several inches thick, weighing up to 50 tons and costing hundreds of thousands of dollars.

## Cost

The cost of a superconducting MRI scanner may range between 1.3 and 2 million dollars. The cost of preparing a site for the scanner can be up to a million dollars, depending upon whether construction is new or remodeled and whether the MRI is mobile or fixed. The high cost of an MRI installation encourages efficient operation, and sharing among hospitals has been a common method of maintaining appropriate scan volumes.

The total patient charge for most MRI examinations at most centers in Minnesota ranges from $500 to $1000. Although this seems high with respect to other imaging modalities, it is important to remember that MRI may provide better information with greater patient safety. In some cases, MRI replaces an equally expensive and more invasive procedure (e.g., myelography with anesthesia in children). Reimbursement by insurers is steadily improving but remains variable depending on the patient's provider and the patient's status as an inpatient or outpatient at the time of the examination.

## Minnesota Experience

The Mayo Clinic in December 1982 became one of the first American sites for MRI installation. A unit was installed at the University of Minnesota in November 1984. By January 1986, five units were operational at Twin Cities sites. The dissemination of this technology has quickened, so that by mid-1988 there will be about 15 Minnesota MRI units, including both fixed sites and mobile operations. By the same time, several MRI centers in Minnesota will have scanned over 10,000 patients.

## The Patient's Perspective

The MRI patient needs to be oriented and cooperative, since the usual study includes several series of images requiring a total of 30 to 60 minutes. During this period, the patient needs to lie quietly within the magnet. Disoriented or uncooperative patients require sedation or anesthesia for an adequate MRI exam.

During the scan, the patient hears a pulsing or knocking sound that is due to the coils in the magnet responding to the changing magnetic fields. There is no other sensation for the patient during the study, and there are no after effects. Two or three percent of patients experience claustrophobia within the scanner; such patients may need sedation to successfully complete an MRI exam.

Because of the high tissue contrast inherent in MRI, injection of contrast materials is not usually needed. That is, for most patients, MRI is both nonionizing (using radio waves rather than X-rays) and noninvasive. A contrast agent for MRI will become available in early 1988 for use in specific clinical settings; it will be injected intravenously in a manner similar to the current practice in CT scanning. This agent (Gadolinium-DTPA) appears to be even safer than the currently used iodinated X-ray contrast materials.

## Precautions and Hazards in MRI

There are a number of medical contraindications to MRI scanning. Patients with cardiac pacemakers should not be referred for MRI studies, since the pacemakers may malfunction in the magnetic field of the scanner and since the scanner's fluctuating fields may induce extraneous currents in the pacemaker leads (or in other conductors such as implanted neurostimulators).

Patients with intracranial aneurysm clips are not MRI candidates, since some of these clips are large enough and magnetic enough to experience torque in the scanner's strong field and potentially injure the adjacent vascular structures. However, most other vascular clips, such as those used in coronary artery bypass surgery or abdominal surgery, are not sufficiently magnetic to present a problem.

Patients with metallic fragments or shrapnel in critical locations such as the eye are excluded from MRI scanning to prevent magnetically induced motion of the fragments from causing local tissue damage. On the other hand, most of the large orthopedic appliances such as total hip protheses or intramedullary rods are not highly magnetic and do not pose a risk for patients undergoing an MRI exam. (Such appliances cause local image artifact from field distortion, but the degree of artifact is less than that encountered on CT scanning of such devices.)

Artificial heart valves and middle ear prostheses must be individually considered; many do not represent a contraindication for MRI. Ventriculoperitoneal shunts may cause local image artifact but do not preclude an MRI study.

Seriously ill patients being maintained on life-support equipment require special arrangements for MRI scanning. Routine life-support equipment does not operate properly in the high field environment of the unit, and specially designed ventilators or anesthesia machines are required.

MRI is believed to be safe in pregnancy, since many sensitive bioassays for embryologic development have shown no adverse effects from the procedure. However, until we have had a long period of experience, it seems reasonable to restrict MRI scans in pregnancy to situations where critical information is to be gained.

Finally, the strong magnetic field of an MRI scanner poses a significant hazard if ferrous objects are brought into the scan room and approach the magnet. In such circumstances, the object becomes a projectile drawn to the gantry with increasing force. There have been a number of instances of IV poles, wheelchairs, anesthesia gas cylinders, wrenches, scissors, or other objects becoming airborne, flying through the air and endangering patients and personnel on their path to the magnet. For these reasons, access of hospital personnel and the public to MRI scan rooms must be carefully controlled at all times, both during and after operating hours!

## Indications for MRI

MRI offers several major imaging advantages. The ability to easily scan in sagittal and coronal planes has proven valuable for displaying many anatomical regions and pathologies. The lack of bone artifact on MRI scans has made it possible to visualize soft tissues near bone as never before. MRI is also able to provide flow information such as vascular occlusion or patency.

The most important imaging advantage of MRI is the very high tissue contrast, which gives MRI many times greater sensitivity than CT scanning for the detection of the lesions. Tissues vary much more in their magnetic relaxation behavior (which is the basis for MR contrast) than they do in their X-ray absorption (which is the basis for CT contrast).

Clinical indications for MRI arise from its imaging advantages. The multiplanar display, absence of bone artifact, and high tissue contrast have made MRI our best diagnostic tool for the anatomically complex and bone-encased central nervous system. MRI has been remarkably successful in detecting white matter disease such as multiple sclerosis, and in the early detection of other cerebral pathologies such as encephalitis. For these reasons, many radiologists advocate MRI as the screening procedure of choice for brain abnormalities.

Multiplanar display and the absence of bone artifact make MRI the best choice for evaluating lesions of the temporal lobe, posterior fossa, or sellar region. The coronal and sagittal display of MRI are also optimal for understanding congenital cerebral malformations. (Pediatric applications of MRI are generally attractive because of absence of ionizing radiation.)

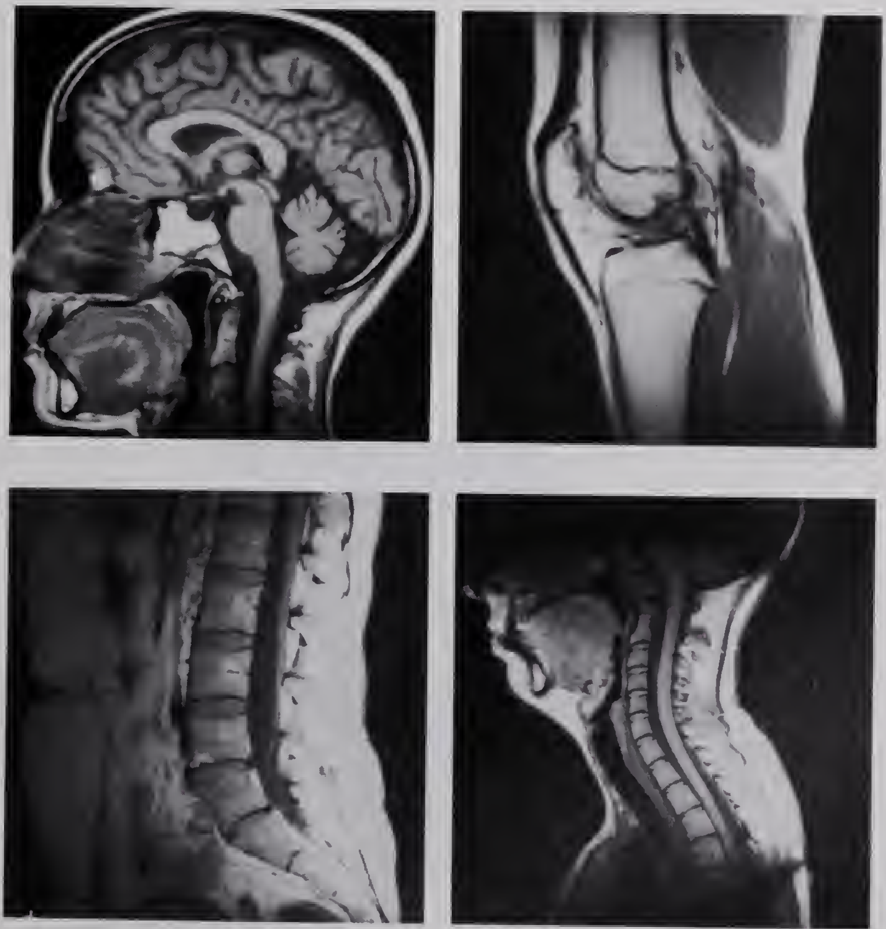
In the spinal canal, MRI is replacing myelography and CT as the best test for evaluating disorders of the spinal cord (myelopathy). MRI demonstrates *both* the external cord contours *and* its internal composition. Lesions such as spinal cord tumors, syringomyelia, and congenital abnormalities can be well visualized without the discomfort, risk, and cost of intrathecal contrast. Many radiologists are also using MRI to examine the more common conditions of the bony spinal canal, such as the evaluation of metastatic disease (e.g., rule out cord compression), spondylosis (e.g., question spinal stenosis), and disc disease.

Although MRI offers more information than CT scanning in cases of lumbar disc disease, both modalities are well above the diagnostic threshold. Many radiologists continue to recommend CT scanning as the initial screening test for lumbar disc disease, since it is more available and less expensive than MRI.

Evaluation of the musculoskeletal system is developing as the second most frequent indication for imaging with MRI. Many applications in examining joints and soft tissues for muscle, ligament, meniscus, or cartilage injury have been established. The most frequently examined joints are the knee, shoulder, and temporomandibular joint. MRI may avoid the need for arthrography in these locations. In other applications, the extent of bone tumors or soft tissue masses can be very well defined by this method. MRI is also now regarded as the most sensitive test to detect aseptic necrosis of the hip and other bones.

The application of MRI to head and neck disease has been rapidly accepted. Tumors and other lesions of the skull base, pharynx, oral cavity, larynx, and lymph node metastases are well defined by virtue of MRI's high tissue contrast and multiplanar display.

The pelvis, abdomen, and thorax can also be examined by MRI, although motion from the heart, diaphragm, and bowel tends to degrade image quality and must be suppressed. Improvements in



**Sagittal magnetic resonance images (clockwise from upper left) of the head, knee, cervical spine, and lumbar spine.**

gating techniques and faster imaging sequence will lead to improved MRI visualization in these regions. Currently, MRI seems well established in the pelvis (e.g., to evaluate bladder, uterus, or adnexal masses), while many experts continue to rely on CT scanning and standard radiographic techniques for most abdominal imaging. However, it seems possible and even likely that the high tissue contrast of MRI combined with new imaging approaches will soon establish this modality as the most sensitive means of detecting hepatic metastases.

Future MR developments will include expanded cardiovascular applications. Some centers are already using special pulse sequences to accomplish cine cardiac examinations. MR angiography of large vessels (without catheters or contrast material) has been shown to be technically feasible and may become a clinical reality.

## Limitations of MRI

Although MRI offers tremendous imaging advantages as summarized above, it does have definite limitations. In the brain, MRI's exceptional sensitivity to lesions has not yet been matched by equal specificity as to the disease process. Greater specificity will probably be provided by MRI contrast agents and by increased experience with the modality.

MRI is not as sensitive as CT scanning to calcium and cortical bone detail. For example, CT would be better than MRI for evaluating patients with suspected basal skull fracture, ossicular dislocation within the petrous bone, or small fracture fragments in the spinal canal.

Some lesions (e.g., meningioma) are generally "isointense" to adjacent tissue on MRI scans and require close examination or contrast agents for detection.

The time to complete an MRI scan is currently longer than for a CT scan. This feature combines with MRI's sensitivity to motion artifacts and the magnetic field's effect on monitoring equipment to make CT a better choice for unstable patients with possible intracranial hemorrhage (e.g., stroke, tumor).

Finally, there are many technical artifacts which are part of everyday MRI scanning and can be confusing. The radiologist must be familiar with the myriad of artifacts to avoid pitfalls in interpretation.

## Conclusion

The era of MRI has arrived, and it seems likely that this modality will dominate the next decade of medical imaging as completely as CT has dominated the past ten years. MRI is rapidly being integrated into the everyday workup of patients with many illnesses. The high cost of MRI in the setting of the "corporate transformation of medicine" will raise many new questions. When is MRI cost effective? Where does MRI replace other procedures and shorten hospital stays?

Radiologists and referring physicians in Minnesota have been quick to accept this technology, and we can look for future expansion of MRI applications. MRI's ability to better detect and define disease, its appeal as a nonionizing and noninvasive modality, and its spectacular images have led to its success and will ensure its future growth.

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*The authors present this paper on behalf of the Magnetic Resonance Committee of the Minnesota Radiological Society. David Larson is a neuroradiologist at Metropolitan-Mount Sinai Medical Center. Doug Yock is director of Neuro-Imaging and Magnetic Resonance at Abbott Northwestern Hospital.*

## Correction

The photo caption on page 34 of the January *Minnesota Medicine* was incorrect. Pictured with Geoff Kaufmann (left) is Dr. John LaBree, codirector of The University of Minnesota Hospital and Clinic's outreach program, not Alfred Dees, who is associate director of the hospital. We regret the error.

## **Urinary Calculi** references from page 91

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L. ASHLEY WHITESELL, M.D.

# Maintaining Our Competitive Edge

America has for many years held a notable lead in the world market for medical technology. We have maintained a positive trade balance in this segment of the market and an annual 4 percent growth rate over the last five years. But with today's growing emphasis on containment of health care costs, there is a great concern that we will be unable to fund the research and development we need to maintain our technological edge.

"Medical technology" has varied meanings. It can refer to such innovations as the CAT scanner, the MRI scanner, and the lithotripter, sensational new developments with potential for both high costs in the short term and huge savings over the long run. Or, medical technology can be taken in a broader sense to mean all drugs, devices, diagnostic tests, and medical and surgical procedures that prevent, diagnose, and treat disease. The latter, used by the National Committee for Health Care, is a more truthful definition of medical technology. Most health care we deliver today is a result of incremental improvements in medical technology over the last two decades. Most often medical technology is not the supermachines for the few, but the many smaller advances that affect a large group of patients and conditions.

Recently, the government has attacked medical technology as a cause of rising health care costs. As an example, the Health Care Finance Administration last summer specifically listed medical technology as one of the main factors responsible for health care's high costs.

I believe this is a misperception. Most models of cost analysis use three factors to describe rising health care costs: price increases, hospital admissions per capita, and resources per patient. The resources per patient accounts for the increased intensity of care provided today but does not differentiate between medical excesses and public demand. Yet, it is now widley recognized that much of the perceived excess is due not to new technology but to the lack of financial incentives to moderate its use. A number of attempts have been made in the last ten years to harness health care costs. But these attempts, including utilization review, health planning, and rate setting, have generally not met the desired goals. They have not established direct provider and physician incentives for balancing the fundamental demand for technology and the potential for excessive use.

To decrease costs and provide accessible quality care we must place responsibility on researchers and manufacturers to prove the value of new developments and on providers and physicians to more carefully assess their application to individual circumstances. Further, third-party payers must balance cost control with quality enhancement.

Technology should be viewed not as a culprit but as a tool to achieve quality and efficiency. How can this be done in a competitive health care market? We are now looking at two areas of competition, managed care and market discipline. After two decades of inflation, public and corporate managers have settled on competitive market forces as a primary means of cost control. A still undefined medical marketplace is emerging, and it is increasingly apparent that competitive price negotiations between payer and provider groups are backed up by aggressive quality management via utilization control systems that are becoming the standard for allocating medical resources into the 1990s.

Managed care, with its payment schemes that reward economical care, is becoming the dominant trend in American health care. And so, a new class of medical decision makers has entered the medical marketplace. These decision makers have been called the fourth-party negotiators by our Ad Hoc Committee on Competition. They include 1) corporate executives, employee benefits managers, and business coalitions; 2) insurance company medical directors; 3) utilization review coordinators; and 4) alternative delivery system administrators. With this new line of decision makers comes an even greater emphasis on cost containment, and with that, the risk that innovation will be stifled. But a commitment to cost-effective, quality care does not have to jeopardize technological advancement. To ensure a bright health care future, we should support the development of new medical technologies *and* cost-effective treatments.

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MEDICAL VALUATION SPECIALISTS

## Notebook from page 67

latest. I thought of this media hype when I read a December 1987 *Reader's Digest* article that carried this title "Wonder Drug that Zaps Cholesterol" on the front cover and ended with this passage ". . . the chance of slicing one-third of one's cholesterol by swallowing some pills will be irresistible to millions."

■ The incentives for developing and acquiring new technologies are often compelling and hard to resist. These incentives include: the drives for new treatment methods for current diseases, the demands for treatment of new diseases, the protection or expansion of market share, the maintenance of the quality of life, and the need for new equipment to avoid technological obsolescence.

### Levels of Technology

Different levels of technology exist. In his book, *The Lives of a Cell*, Lewis Thomas defined these as:

1) A large body of what might be termed "nontechnology," or to use Naisbitt's term "high touch." Thomas defined this "nontechnology" as those resources devoted to "supportive therapy," to simply "caring for," or "standing by" those who are sick.

2) "Halfway technologies," the kind of things done for certain diseases one is unable to do much about. These technologies compensate for disease, or postpone death, and include: organ transplant, coronary bypass, hip replacement, dialysis, irradiation, and chemotherapy. In essence, these are "halfway" attempts to turn back or slow degenerative or malignant disorders in their late stages.

3) "The real high technology of medicine," which comes as a result of the genuine understanding of disease mechanisms. These would include such things as vaccines for polio or AIDS, genetic manipulation to cure inborn errors of metabolism, the use of antibiotics to cure bacterial infections, the prevention of hemolytic disease of the newborn, and specific hormones for endocrine disorders.

### Closing Comment

Whatever the level of technology, we hope this special issue gives you a sense of the state of medical technology in Minnesota and of the people and ideas behind that technology.

# ON THE BUSINESS SIDE

*By Steven D. Carter, MMA Chief Executive Officer*

## A PPO for Medicare and Physician Payments

The Department of Health and Human Services is working on a plan that will provide financial incentives to Medicare beneficiaries who use certain preferred providers for medical care. The proposal is designed to curtail inappropriate utilization, reduce program outlays, and encourage competition.

Under the proposal, Medicare would pay more of patients' bills if they go to physicians who make special efforts to eliminate unnecessary services. But beneficiaries would receive no discount and might have to pay more if they went to physicians with a history of ordering what the government considers excessive tests, office visits, or medical procedures.

The government would publish the names of the "preferred providers," and these physicians would agree not to charge Medicare patients more than the amounts approved by the government.

The government would contract with private insurers to develop standards for accepted patterns of medical practice. In addition, physicians could lose their designation as preferred Medicare providers if their practice patterns fall outside normative practice patterns.

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*Reference*: Health Lawyers News Report

## Medicare RVS

The Physician Payment Review Commission is expected to recommend to Congress in March that it scrap current Medicare Part-B payment procedures for physician services and substitute a version of a relative value scale (RVS) or fee schedule. Adoption of an RVS would have a redistributional effect on physicians' incomes.

The Congressional Budge Office has applied a number of fee schedules to a national database of Part-B physician claims. Under each of the models, practice receipts of generalists and nonsurgical specialists increased, while receipts for surgical specialists decreased. Among generalists, gains for general and family practitioners were larger than those for internists. The full fee schedule options would appreciably increase practice receipts in rural areas, offsetting this by small reductions in metropolitan areas. One in four practices nationwide would face a drop of 10 percent or more.

The winners and losers of a standardized fee schedule would create tough questions for Congress. It would have to decide, for example, whether to retain a specialty differential to ensure an adequate supply of specialists.

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*Reference*: Prospective Payment Guide

## BCBSM Severity Index

Minnesota Blue Cross/Blue Shield is one of the first insurers in the nation to use a severity index plan to determine payments for inpatient hospital services. The plan uses a severity factor calculated by the MEDISGRPS (Medical Illness Severity Grouping System) to adjust its pricing system.

Members of the hospital industry are pushing the administration to develop a severity index to improve the ability of DRGs to predict use of resources. But so far the administration has resisted, preferring to push for Medicare voucher development.

MEDISGRPS is a severity index program that uses clinical findings at the time of admission to classify patients into severity groups reflecting the probability of organ failure. The groups reflect statistically significant differences in mortality and morbidity rates and differences in average hospital charges.

The Minnesota Blues plan uses the MEDISGRPS system because the former reimbursement system did not account for the actual condition of the patients. The BCBS plan groups hospitals using a modified DRG approach. MEDISGRPS is viewed as more objective because it uses patient chart data.

Analysis of outcome of hospital care is in line with the new emphasis of the Joint Commission on the Accreditation of Healthcare Organizations on using outcomes to measure hospital performance.

Use of a severity index and the data it generates give an insurer a better view of medical practice patterns of physicians. The Minnesota plan produces information comparing treatment patterns among hospitals and among physicians. The data will show differences in utilization, ancillary services, mortality rates, etc.

The Blues plan installed small computers at hospitals and provided the software, while the hospitals paid for training of staff and physicians to operate and understand the program. The Minnesota plan also worked with MediQual to develop large applications of the software program.

A future issue will be a determination of who owns the data and under what terms and conditions it will be released.

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*Reference*: Prospective Payment Guide

## Medicare Now Pays Interest on Late Payments

Medicare claims that are filed correctly will earn interest payments of 7⅝% if intermediaries fail to pay "clean" claims within 30 days. HCFA has ordered intermediaries to develop processes to determine and pay interest on late claims received after April 1.

Key to getting interest payments is meeting HCFA's definition of a clean claim. Make sure your claims:

- ► are accompanied by a complete listing of medical services. For electronic claims, such evidence must be forwarded simultaneously;
- ► pass all the carrier's audits;
- ► don't require the carrier to contact the patient, physician, or supplier for routine data omitted from the bill, for medical information or for information to resolve discrepancies;
- ► don't make the carrier ask another contractor for information or seek data on Medicare secondary payers or information concerning a coverage decision;
- ► don't force the contractor to ask you twice for information because you didn't respond within seven days. This most frequently occurs when an incorrect insurance claim number is submitted.

Interest payments will be calculated by multiplying the amount of reimbursement by the annual interest rate (set by the Treasury Department every January and July), dividing that amount by 365 to determine the daily interest, and multiplying that number by the number of days for which interest is due. Providers will receive notice of their interest due on the remittance notice from the carrier. Payment and interest will be included in one check.

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*Reference*: Prospective Payment Guide

## Federal Rulemaking and Collective Bargaining

The National Labor Relations Board has begun a rulemaking process to decide how to structure bargaining units for negotiating under the labor laws in the health care industry. This would be a major change from the NLRB historical decision-by-decision development of law on bargaining units. Of concern is the impact on patient care of conferring negotiating rights to health care employees. A committee report said that the board should move carefully and consider preventing the proliferation of bargaining units in the health care industry. The board has found that the issue of which groups have a sufficient "community of interest" to make them coherent units would justify the certification of registered nurses, technical employees, service and maintenance employees, and clerical employees. A number of courts, however, have rejected the mere use of the "community of interest" test in health care because this would result in a proliferation of bargaining units. Under the NLRB's proposed rule, for acute care hospitals with 100 beds or more there would be at least six appropriate bargaining units, *including physicians*, registered nurses, other professionals, technical employees, and guards, plus service, maintenance, and clerical employees.

## LPNs Can't Bargain

The federal appeals court ruled that licensed practical nurses (LPNs) are considered supervisors and should not be included in bargaining units. In a case brought by the National Labor Relations Board seeking an enforcement order against a nursing home for refusal to bargain, the nursing home contended that the bargaining unit was incorrectly determined since it included 20 LPNs who had supervisory positions over other employees. Specifically, the LPNs evaluated nurses' aides. Although not directly responsible for hiring, firing, promoting, or disciplining other employees, the LPNs' evaluation was considered in promotion and demotion decisions. Furthermore, the LPNs were responsible for assigning patients to the nurses' aides and for reporting violations of patient care policies and personnel rules. Finding that the LPNs "responsibly direct" the nurses' aides, the court concluded that union elections would be influenced by the improper inclusion of the LPNs in the bargaining unit. Consequently, the court denied the order of enforcement, and the case was returned to the NLRB.

## Waived Deductibles: "Legal?"

The question of whether hospitals are violating the law when they waive Medicare deductibles may be decided in Milwaukee, where a local hospital has asked a federal court to rule. The court test by West Allis (Wis.) Memorial Hospital—believed to be the first such action—could affect hospitals that offer waivers to senior citizens.

If the court declares waivers illegal, West Allis wants its nearest competitor, St. Luke's, to shut down its waiver program. If the waivers are found to be legal, West Allis would start up its own program, with the court ruling as insulation against any attempt by the Justice Department to prosecute it under Medicare fraud and abuse regulations.

There has been uncertainty about legality of waivers since late 1985 when HHS asked the Justice Department for permission to tell the hospital industry that waiver programs would not be prosecuted. The Justice Department refused, saying waivers technically violated Medicare law, but it never has brought charges against any hospital.

Either all hospitals should be free to extend the waiver benefits to Medicare recipients or none should.

MMA is closely following this suit, since we are offering a voluntary senior citizen program to waive copayments and/or deductibles for the needy elderly.

### Minnesota Blues and New Options

Last year, many employer-sponsored health plans added what is called the "triple option." Under this arrangement, an employee could either enroll in an HMO, make use of a PPO or IPA, or enroll in a traditional indemnity-type insurance program. The arrangement was aimed at cost containment and freedom of physician choice. The major drawback of the triple option, however, is that the employee must choose one of the three options at an annual enrollment period. Now some health provider groups are offering what is know as an open-ended HMO, where employees may select a health provider at the time they need medical attention, rather than once a year. Under a program sponsored by Blue Cross and Blue Shield of Minnesota, members are enrolled in an HMO but can also use the program's PPO or even choose an independent physician.

### Trends in Physician Dispensing

Supplying physicians and ambulatory care centers with drugs for dispensing is a new growth business. The Federal Trade Commission supports this trend in a recent opinion. Currently, drugstores sell $20 billion in prescriptions per year and derive about 20 percent of their revenues from prescriptions. However, supporters of physician dispensing point out that physicians for the most part will only be filling first-time prescriptions, after which refills will be obtained at the pharmacy. According to Scripps-America, a repackager, the cost of prescription drugs to physicians is 20 to 30 percent less than at a pharmacy. A National Association of Ambulatory Care Center study reports potential savings of 60 percent. Most repackagers concentrate on about 40 items that are most often needed by physicians, including antibiotics, analgesics, antihistimines, gastro-intestinal medicine, oral contraceptives, diuretics, and topical ointments.

*Reference*: Ambulatory Care

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# NEWS CLIPS

## INSURER DROPS FLORIDA DOCTORS

St. Paul Fire and Marine Insurance Company, the largest medical malpractice insurer in the country, has started pulling out of Florida, claiming the flood of malpractice suits has made it impossible to defend physicians there.

The company will be dropping about 3,000 physicians as their policies expire over the next five months.

## STATE PHYSICIAN HEADS AAPM&R

Joachim L. Opitz, M.D., of Rochester, has been installed as president of the American Academy of Physical Medicine and Rehabilitation. Dr. Opitz is a member of *Minnesota Medicine's* Board of Editors.

## HCMC PHYSICIAN MOVES TO HEALTH ONE

Alvin L. Schultz, M.D., has been appointed senior vice president and chief operating officer of Health One Corporation's Medical Affairs Division. Dr. Schultz, a member of *Minnesota Medicine's* Board of Editors and Advisory Committee, was professor of medicine at the University of Minnesota, and chief of medicine at Hennepin County Medical Center in Minneapolis for 22 years before accepting the Health One position. He is president-elect of the Hennepin County Medical Society.

## CLINICS USE CREDIT CARDS

Four out of five group practices allow patients to pay by credit card. And two-fifths of the remainder plan to introduce credit card programs this year. About 50 percent said accepting the cards reduced their accounts receivable, and 38 percent reported a reduction in bad debts. Implementing a program to use credit cards is probably good business.

## MALPRACTICE DATA BANK

Congress has approved the creation of a new data bank on malpractice claims and licensure actions involving all American doctors. A bill, soon to be signed by the President, would protect the data bank operator—probably the American Medical Association—and the government from liability suits. The bill would bar malpractice attorneys from using the bank's files for potential cases. The bank is mandated in a 1986 law as a means for helping providers check on physicians seeking admitting privileges. Because creation of the bank lacked funding, HHS has asked for $4 to $5 million from Congress to fund the project.

## "CAFETERIA" BENEFIT PLANS

The House Ways and Means Committee approved a proposal—to be attached to a budget reconciliation bill—that would place a $500 cap on the amount of pretax salary that employees in flexible benefit plans could contribute toward uncovered benefit expenses. A $500 ceiling would kill the use of a spending account for benefits such as child care expenses. MMA has opposed the change through our Congressional delegation.

## BUSINESSES NEGOTIATE FOR HEALTH CARE

Businesses in Milwaukee have formed the Healthcare Network of Greater Milwaukee to negotiate contracts directly with area hospitals and physicians. Under the arrangement, three levels of care will be negotiated, using per diem rates for acute care, for psychiatric care and substance abuse, and for neonatal care. In the future, HCN may add services such as home health care, dental care, and prescription drugs. HCN also is evaluating data systems to determine comparative standards.

## TOP-RANKED CARE

Poor people in Minnesota have the best chance of getting adequate health care under Medicaid, according to an extensive 257-page report by the Public Citizen Health Research Group, based in Washington, D.C.

The report, which ranks Minnesota first, Wisconsin second, and Mississippi last, concludes that the entire Medicaid system should be revamped and blames federal and state governments for huge disparities between states.

The report's ranking gives more points to states that have been most generous in supplementing federal funds for medical assistance. Total spending for Medicaid in Minnesota exceeds $1 billion a year.

## NEW PRO DIRECTOR

David Ziegenhagen has resigned as executive director of Minnesota's Board of Medical Examiners to become executive vice president of the Foundation for Health Care Evaluation, the state's peer review organization. Ziegenhagen, who has headed the state board since 1985, replaces Earl

Dresser, who has served as interim head of the foundation since September.

### METROPOLITAN-MOUNT SINAI MEDICAL CENTER

Metropolitan Medical Center and Mount Sinai Hospital of Minneapolis will merge to form Metropolitan-Mount Sinai Medical center.

Stanley Cowle (current MMC chairman) will be chairman of the new center and Stephen Davis (current Mount Sinai chairman) will be the vice-chairman.

The new center, owned by the Health One Corporation, will serve more than 17,000 patients a year, a 6.3 percent share of the Twin Cities health care market.

### NEW HEALTH POLICY CENTER

A center that will study ways of improving the nation's health care financing and delivery has opened at the University of Minnesota's School of Public Health.

The new Health Care Finance Administration (HCFA) Research Center, is a joint effort of the Leonard Davis Institute of Health Economics at the University of Pennsylvania, Mathematical Policy Research, a Princeton, N.J., health policy analysis firm, and the University of Minnesota's division of health services research and policy.

HCFA will finance the center with a five-year $3.5 million grant. Roger Feldman, professor of health services research and economics at the University, will direct the center.

### 1,000 TEST-TUBE BABIES

The 1,000th test-tube baby was born at the British clinic of the two doctors who pioneered the technique. Matthew John Shepherd was born Dec. 30, at Bourn Hall Clinic near Cambridge, where Patrick Steptoe and Robert Edwards developed in vitro vertilization. The Steptoe-Edwards method yielded the world's first test-tube baby, Louise Brown, in July 1978.

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**Bakken** continued from page 68

tently produce heart block. Children would come through the surgical procedure with a fine mechanical repair of the interventricular septal defect, but their hearts would be beating too slowly to maintain their cardiac output through the recovery period.

The logical approach was to use available pacemakers—the large AC-powered, vacuum tube pacemakers. They occupied a couple cubic feet of space and had to be plugged into the power system.

We first adapted these pacemakers to use externally on the children. But their pulse was too powerful to use on these small children just coming out of surgery.

So the residents developed a way of putting a wire into the heart during surgery. They brought the wire out through the chest, and we connected the AC pacemakers to that. This worked fine because we could stimulate just the heart without stimulating the whole thorax. Within a few days to a week the childrens' conductive systems started functioning again, and they could be weaned from the pacemaker.

In October of 1957 a major blackout occurred in the Twin Cities, the University of Minnesota lost its AC power. Of course, the University had emergency power in the recovery room and in surgery. But not in the patient rooms. So patients on AC pacemakers got into trouble. Physicians maintained most of them on isoprel and so forth and pulled them through.

Following that experience, Walt Lillehei asked us if we could back up these pacemakers with batteries. So, we suggested a 6 volt automobile battery, and he put it on the bottom of the cart these pacemakers sat on. We could use an inverter to change the 6 volts to 115 volts to power the AC pacemaker and add a battery charger for keeping the battery charged when AC was available.

When I went back to the garage it occurred to me that this was a lot of apparatus just to generate a 9 volt pulse. This was 1957, when transistors had just become available for home projects. I looked up a circuit in *Popular Electronics* magazine for a little electronic metronome. It was a circuit that would put clicks on a loudspeaker, and you could vary the rate of the clicks for music timing. I took that circuit and put it in a box, and that became the first small, transistorized, battery-operated, wearable pacemaker. It was about four inches square and an inch and a half thick.

MM *And so the pacemaker was born.*

BAKKEN Yes. That was the first time that individual pacemakers had been developed. We began to make these for Walt Lillehei because he was doing a lot of open-heart surgeries in 1957 and 1958. Other centers around the world, aware of Lillehei's work, also ordered pacemakers from us. So we started in the pacemaker business.

In 1968 a St. Paul surgeon named Sam Hunter came up with the idea of connecting one of these external transistorized pacemakers in a patient with Stokes-Adam's syndrome. This elderly patient had heart block. Dr. Hunter did a thoracotomy and connected the wire to the heart, and brought it out through the skin. That was the first permanent pacemaker. With children you could remove it in a few days to a week, but an elderly patient with heart block, a permanent condition, would wear the unit under his clothing for the rest of his life. One patient from New York has been continuously paced since 1963. Her first pacemaker was one of these wearable external pacemakers. Two years after that she had an implantable pacemaker inserted. She is 81 years old now and still very active.

MM *That must be very gratifying for you.*

*Now tell us something about Medtronic, the scope of the enterprise, where the pacemaker industry is, and perhaps a little bit about your Activitrax pacemaker.*

BAKKEN I should back up a little bit first. In 1960 we got into the first implantable pacemakers. Since then Medtronic has supplied close to a million and a half implantable pacemakers.

We now have a staff of 5,600 people and sales of over $600 million per year. The first pacemaker in 1960 had only two transistors. It was simply an asynchronous pulse generator. The pacemakers now have over 10,000 semiconductor junctions in them. They have progressively become more physiologic, they have gone from asynchronous pulse generators to demand pacemakers. Demand pacemakers put out a pulse only when the heart does not beat within a certain period of time. To begin with, pacemakers were just ventricular stimulators. Then we moved into the dual-chamber pacemakers that would pick up the atrial signal and stimulate the ventricle as the heart would normally do with an intact conduction system. Then we went onto pacemakers that would pace both the atrial and ventricle in sequence. Now we are into pacemakers that have sensors other than the P-wave that set the rate. At times, the SA node is not responding appropriately to the patient's metabolic needs.

The Activitrax has an activity sensor. A little "microphone" in the shell of the pacemaker senses activity by picking up the noise that's transmitted through the body from the muscles. The pacemaker integrates this noise into a signal that will set the rate of the heart, dependent on the noise level that it's hearing. This can be calibrated to be proportional to activity.

In other words, when you start walking, you get a noise on the shell of the pacemaker, that noise increases if you start jogging, and it runs the pacemaker faster.

Many sensors will be used down the road for picking up parameters related to metabolic needs. We produce one in Holland based on the QT interval. We produce one in Italy based on respiration rate. The faster the person breathes the faster the resultant heart rate. This will be shifting to minute ventilation, which will be more proportional to the oxygen consumption or metabolic level of the patient.

MM *So Medtronic is really a high-tech industry based on human physiology.*

**BAKKEN** That's true. Our devices are aimed at restoring physiology as it was originally designed. We make electrical stimulators for the heart that either speed up the heart rate when it's too slow or slow it down when it's too fast. We are restoring the natural physiology by replacing defective or incompetent valves with our valves. We are balancing the endorphin levels in the body for pain control, restoring people to normal activity who would normally be addicted to pain drugs. Our aim is to produce devices that are therapeutic in the cardiovascular and neurological arenas.

MM *Let's make a leap from human physiology to the dynamics of the Minnesota medical industry. When did you decide to make the transition from chairman of the board of Medtronic to chairman of the board of Medical Alley? What do you want to contribute to the medical care industry in Minnesota? What are you trying to do with Medical Alley?*

**BAKKEN** I joined Medical Alley several years ago when I became aware of the organization. The concept of having an association representing the whole medical industry in the state sounded worthwhile and intriguing. A year after I began attending the Medical Alley board meetings I was elected chairman of Medical Alley.

The Medical Alley Association is composed of the whole health care industry in our state. By that I mean its providers and manufacturers. Minnesota has a wide spectrum of manufacturers in the field of bioscience—something over 350 now, and growing. It includes all of the consultants in the biomedical sciences, in the health field, physicians, nurses, all health care professionals. Educators, government people, any organization or anyone in the state who represents health care is an eligible member of Minnesota Medical Alley.

It's really a medical chamber of commerce. It's a networking organization. Certainly each element of the health care industry has its own issues. But many problems in the health care industry in the state and in the nation are common to everyone. My hope is to bring all of these together into a forum where all the individual components can combine their voices into one. We want to help Minnesota's health care industry thrive and grow.

*continued*

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| March 17-18 | Family Practice Today, St. Paul |
| March 25 | Ninth Annual Occupational Medicine Update, St. Paul |
| March 25 | ENT Update, St. Joseph's Hospital, St. Paul |
| April 6-8 | Pulmonary Function Testing Workshop, St. Paul |
| April 7-8 | Ob/Gyn Update, St. Paul |
| April 28-29 | Emergency Management of Poisonings, St. Paul |
| September 8-21 | Annual Occupational Health & Safety Institute, St. Paul |
| September 30 | Bioethics Conference on Limited Resources, St. Paul |
| October 20-22 | Fifth Update on Emergency Medicine, St. Paul |
| November 17-19 | Sixth Update on Primary Care Medicine, St. Paul |
| December 1-3 | Annual Cardiology Conference, St. Paul |

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CME

**MM** *I know you think biomedical engineering and other forms of biomedical education are the bedrock of the health care industry. You have been working with the University to help set up a school of biomedical engineering, have you not?*

**BAKKEN** I have a strong personal concern about science education in the state of Minnesota at all levels. Through Medical Alley we are specifically working at the University level. Minnesota is the leading state in the U.S. in the health care industry. It's very important that we have a strong biomedical engineering school at the University of Minnesota. Although biomedical engineering courses are currently being taught at the University by different professors in different divisions, there is not a centralized location one could call the biomedical engineering school.

Medtronic has pledged $2 million for a chair in biomedical engineering to attract a director of the school. We have given some money for scholarships in the Ph.D./M.D. programs to turn out people with a Ph.D. in biomedical engineering and a combined M.D. degree. Our health care industry needs these kinds of people to lead us into the future.

**MM** *Medtronic is an international company, and I know you feel Minnesota needs international connections—both commercial and scientific—to thrive. And so Medical Alley has an international committee. What are you trying to achieve with it?*

**BAKKEN** Our international committee has been active in our organization from the very first days of Medical Alley. The committee promotes the health care industry throughout the nation and around the world. The committee has sponsored trade shows in the Far East. It is working with the state now to put together a trade mission to Russia. With all of Minnesota's biomedical product manufacturers, this committee is helping to introduce these products into countries around the world in ways the smaller companies could not because of the expense. The committee is working with the state to promote World Med 88, which will be held next spring in St. Paul. This will bring in potential buyers of equipment from around the U.S. and other countries to get acquainted with some of the manufacturers in this area. Also through Medical Alley Association, we are working with the state to promote Minnesota as a health care provider of excellence. We're promoting the state theme of "Minnesota, a great state of health."

**MM** *Is Medical Alley being recognized as a center in other parts of the U.S.? Are you asked to speak on this theme in other states?*

**BAKKEN** Yes. We're a unique organization. No other state has brought together the whole health care industry in a common forum. Other states have taken note of what we have done. Having a common forum allows us to have a stronger voice at the legislative level. Other states see the advantage we're putting together in Minnesota.

We are being talked about in various national publications, and people are recognizing Minnesota as a "medical alley," as a center for high-tech medicine. I think that's an important point. I'm not trying to boost Medical Alley Association as the thing that makes Minnesota be recognized as the medical center, but if the term "medical alley" identifies Minnesota as such a center, then I think that's fine.

**MM** *So you're positioning Minnesota as the medical leader in the United States. There's got to be some advantage in being perceived as a technological leader. Do you think this perception will draw patients here to places like the University of Minnesota, the Mayo Clinic, our leading community hospitals, and to other centers of excellence?*

**BAKKEN** I certainly think it will draw patients. Minnesota health care has an excellent reputation. People from all over the country who need special procedures come to Minnesota. We have some very outstanding people here who are well known all over the country for doing procedures that are on the leading edge of quality health care. Minnesota has had the reputation over the years as being innovative, creative, and aggressive in developing new health care delivery systems and new health care procedures.

I believe that, properly promoted, our reputation will bring more and more patients into the state or into the outreach programs such as Mayo's programs in Jacksonville and Scottsdale. The reputation is there, we have to promote it and let our own people in Minnesota know about it. They need to know they've got this tremendous asset.

**MM** *Maybe we should take this opportunity to encourage physicians to join Medical Alley. Certainly we're all in this together and the better the state health care industry does the better all of us will do.*

**BAKKEN** It's important to get that point across. When we talk about Minnesota's health care industry, many times people think of just the manufacturers. They're only a part of Medical Alley. Physicians in this state are certainly a key part of our association. With the physicians working together with the rest of the industry, we can achieve our goals more effectively than we can all working as individuals.

**MM** *In the last 38 years you've dealt with many physicians. How do you perceive the situation of physicians today? For example, how willing are they to take litigious risks as you develop new products?*

**BAKKEN** In spite of the tremendous problems, risks, and pressures physicians are under in this country, I still find most of them tremendously devoted to doing things for their patients, to trying to solve problems, to developing new products, to advising us on new products, and to testing them and using them. Most are still eager to create and to advance the science of medicine in this country.

### Provided through the MMA Medical Education Subcommittee on CME Resources

For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; (612) 378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

## FEBRUARY 1988

1-5 **Current Concepts in Cardiovascular Diseases** Mayo Clinic/Mayo Foundation; Buena Vista Palace, Orlando, Florida. CONTACT: Rita Kunz, 200 First Street SW, Rochester, Minnesota 55905; (507) 284-2509.

10-14 **Basic Review and Recent Advances in Head and Neck Surgery** Mayo Clinic/Mayo Foundation; Hyatt Orlando, Orlando, Florida. CONTACT: Rita Kunz, 200 First Street SW, Rochester, Minnesota 55905; (507) 284-2509.

12-13 **New Drugs and New Uses for Old Drugs** Park Nicollet Medical Foundation; Naegele Auditorium, Park Nicollet Medical Center, Minneapolis, Minnesota. CONTACT: Elaine Anderson, Director of Professional Education, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3703.

22-26 **Selected Topics in Internal Medicine** Mayo Clinic/Mayo Foundation; Sheraton Scottsdale, Scottsdale, Arizona. CONTACT: Rita Kunz, 200 First Street SW, Rochester, Minnesota 55905; (507) 284-2509.

FEB 23-MAR 12 **South America Air/Sea Cruise aboard the Royal Viking Sea** North Central Medical Conference. CONTACT: Harold Brunn, North Central Medical Conference, 1845 Hampshire Avenue, Suite 200, St. Paul, Minnesota 55116; (612) 698-1888.

FEB 23-MAR 12 **South Pacific/Australia, New Zealand, including Great Barrier Reef** North Central Medical Conference. CONTACT: Harold Brunn, North Central Medical Conference, 1845 Hampshire Avenue, Suite 200, St. Paul, Minnesota 55116; (612) 698-1888.

24-25 **Geriatric Drug Therapy Symposium** Office of CME, University of Minnesota; Radisson University Hotel, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

26-27 **Preventing Myocardial Infarction** Office of CME, University of Minnesota; Hyatt Regency Hotel, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

FEB 29-MAR 4 **Neurology in Clinical Practice** Mayo Clinic/Mayo Foundation; Kauai Hilton, Lihue, Kauai, Hawaii. CONTACT: Rita Kunz, 200 First Street SW, Rochester, Minnesota 55905; (507) 284-2509.

## MARCH 1988

7-11 **Medical Update 1988** Office of CME, University of Minnesota; Sister M. Innocent Hughes Education and Conference Center, Ft. Lauderdale, Florida. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

11-12 **Pediatric Update** Park Nicollet Medical Foundation; Naegele Auditorium, Park Nicollet Medical Center, Minneapolis, Minnesota. CONTACT: Elaine Anderson, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3703.

14-16 **Gynecologic Surgery - 1988 Update** Mayo Clinic/Mayo Foundation, Wyndham Hotel, Palm Springs, California. CONTACT: Rita Kunz, 200 First Street SW, Rochester, Minnnesota 55905; (507) 284-2509.

21-25 **Geriatric Medicine Review** Office of CME, University of Minnesota; Health Sciences Center, University of Minnesota, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

## APRIL 1988

7-8 **Allergy and Clinical Immunology** Office of CME, University of Minnesota; Mayo Auditorium, University of Minnesota, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

8 **Fourth Annual Duluth Health Conference** The Duluth Clinic, Ltd. and St. Mary's Medical Center; Fitger's Spirit of the North Theater, 600 East Superior Street, Duluth, Minnesota. CONTACT: James G. Brueggemann, M.D., 400 East Third Street, Duluth, Minnesota 55805; (218) 722-8364, ext. 179.

8-9 **The Traumatized Child** Abbott Northwestern Hospital; Marriott City Center Hotel, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

# CLASSIFIED ADS

**Classified rates are 50¢ a word. Mimimum monthly charge is $10; with box number, $2 additional. Telephone ads will not be accepted.**

■ Placement of ads must be made six weeks prior to the date of publication (i.e., March 15 for May ad). Please send ad requests to Minnesota Medicine, 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414.

■ The right is reserved to decline or withdraw advertisements at the publisher's discretion. The publisher is not responsible for clerical or typographical errors and is not permitted to divulge the identity of advertisers who have replies sent to box numbers.

■ Cancelation of ads must be made by the first of the month preceding month of issue.

**St. Francis Medical Center - La Crosse:** Full-time faculty position with opportunity for teaching and practice in the St. Francis/Mayo Family Practice Residency with Mayo Clinic faculty appointment. Currently, 3½ full-time family physicians and 13 residents in clinic and hospital. Send inquiries to: Ted Thompson, M.D., Program Director, St. Francis/Mayo Family Practice Residency, 700 West Avenue South, La Crosse, Wisconsin 54601, (608) 785-0940. 2-2/88

**$145,000 Income:** Family practice group aggressively seeking fourth physician for group. Contact Wiltfang-Paulson Clinic, 1129 Spencer Street, Grinnell, Iowa 50112. Phone: (515) 236-3163. 2-2/88

**Neurologist:** Experienced neurologist needed to join expanding 85-physician multispecialty medical center in Los Angeles and Orange counties, with existing neurological practice. An exceptional base salary and incentive plan. Benefits include malpractice insurance, group health and life insurance. Please send CV to: Minnesota Medicine (817), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. *2-2/88

**General Surgeon:** Board certified general surgeon needed to join expanding 85-physician multispecialty medical center, in Los Angeles and Orange counties. An exceptional base salary and incentive plan. Benefits include malpractice insurance, group health and life insurance. Please send CV to: Minnesota Medicine (818), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. *2-2/88

**Dermatologist, Pediatrician, Oncologist, Pathologist, Otorhinolaryngologist, Psychiatrist, Endocrinologist, Orthopedist, General/Family Practitioners:** Excellent opportunity for physicians in Los Angeles suburb to join 90-member multispecialty medical group. Large fee-for-service and prepaid practice, no Medi-Cal. Excellent compensation program based on guarantee plus incentive, profit sharing, and pension plan. Group provides health, dental, life, and malpractice. Partnership in real estate and medical corporation available. Send CV to: Ron McDaniel, Assistant Administrator, Mullikin Medical Center, 17821 South Pioneer Boulevard, Artesia, California 90701. *2-2/88

**Cardiologist, St. Cloud, Minnesota** needed for referral practice in central Minnesota. As a part of a 20-person group of specialists and subspecialists of internal medicine, a fourth cardiologist is needed for expanding services of heart surgery program, PTCA, and outreach. Need to be American university-trained with full non-invasive and invasive capabilities. Special PTCA or nuclear cardilogy skills desirable. St. Cloud is a rapidly growing, family-oriented community one hour north of Minneapolis/St. Paul offering many cultural and outdoor recreational opportunities. Please contact: W. Ben Johnson, M.D., at (612) 255-5706 or send CV to: The St. Cloud Clinic of Internal Medicine, Ltd.; 1200 Sixth Avenue North, St. Cloud, Minnesota 56301. 3-3/88

**Family Physician** to join three-physician practice. Beautiful community bordered by the North Shore of Lake Superior and the Boundary Waters Canoe Area. Negotiable income, with incentive. Excellent benefits. Flexible hours, share call. Available summer, 1988. Send CV with references to: Rita M. Plourde, Cook County Community Clinic, Grand Marais, Minnesota 55604; (218) 387-2330. 3-3/88

**Luxury Home on Lake Superior's North Shore:** Two miles from Lutsen downhill and x-country skiing. For rent by week or weekend. Might exchange time for comparable property in warmer climate. Call Jeff at (612) 421-4110. 3-3/88

**Green Bay, Wisconsin:** 28-physician multispecialty group seeking BC/BE physicians in the following specialties: Family Practice, Pulmonology, Pediatrics, ENT, and Anesthesiology. Green Bay is a progressive community with an easy lifestyle, ample outdoor activities, excellent schools and cultural activities. The clinic offers competitive salary and excellent fringe benefits. Please send CV to: P.M. Kindrachuk, Administrator, West Side Clinic, s.c., Box 19070, Green Bay, Wisconsin 54307-9070. 4-4/88

**Unsecured Signature Loans For Physicians:** $5,000-$60,000. No points or fees. Best rates-level payments. Up to six years to repay. For information and application call toll free 1-800-331-4952, MediVersal, Department 114. *4-4/88

**Computer-generated 35mm Slides** at reduced prices. Improve your slide quality with multicolor 35mm slides produced on state-of-the-art equipment. Text slides $6-$9. Additional services available: word processing, manuscripts, manuscript editing. Contact: Lynn Gilsrud, MEDIA PLUS; (612) 342-4322. 6-6/88

**Lot For Sale:** Ultra-secluded 2-acre wooded lot in Eagan, $75,000, call Doug at 557-0314. (R)

**Busy, Multispecialty Clinic Seeking Second Pediatrician:** Excellent location, salary, benefits, etc. Contact: Richard Moore, Administrator, or Randall Warren, M.D., at Mork Clinic, PA, 1833 Second Avenue South, Anoka, Minnesota 55303; (612) 421-3680. 3-3/88

**Internist BE/BC** with or without subspecialty training to join 6 other internists in 17-member multispecialty clinic in Worthington, Minnesota. Liberal vacation and meeting time including stipend. Contact:

K.A. Towne, M.D., or John J. Sieve, Administrator, Worthington Medical Center, PA, Worthington, Minnesota 56187; (507) 372-2921. 3-3/88

**For Sale: General Practice** Roseville area. Includes office equipment and leased office space for 1-2 doctors. Call after 6 p.m. for more information (612) 633-9093. (R)

**Pediatrician** to join existing two-person practice at the 23-physician multispecialty Winona Clinic, Ltd., in Winona, Minnesota. Located in the beautiful Mississippi River Valley of southeast Minnesota. The community with a 40,000 population trade area is the host of three colleges and a diverse industrial base. Send CV to: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, Minnesota 55987. 3-2/88

**Orthopedic Surgeon** board certified/board eligible to join a 23-physician multispecialty group in Winona, Minnesota. Total patient population draw area of 40,000. Interested physicians please contact: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, Minnesota 55987. 3-2/88

**Group Health, Inc.** Seeks BC/BE associates in: cardiology (noninvasive), internal medicine, family practice, pediatrics, and obstetrics/gynecology. A balanced lifestyle includes the enjoyment of practicing quality medicine in a 30-year-old prepaid, multispecialty setting located in one of the nation's leading metropolitan areas, working in excellent facilities, participating in comprehensive benefits with flexible compensation and teaching opportunities available. Please send CV to: Jerry Hess, Group Health, Inc., 2829 University Avenue SE, Minneapolis, Minnesota 55414. *3-2/88

**Family Practitioner:** Immediate opening for seventh BC/BE FP to join growing 17-M.D. multispecialty clinic. NO CAPITATION. Two hours from Twin Cities. No practice start-up costs. Located in an area of beautiful lakes and trees, and ideal for raising a family. Call collect or write: Curtis J. Nielsen, (218) 829-0354 or 829-4901, PO Box 524, Brainerd, Minnesota 56401. 4-3/88

**Internal Medicine:** Immediate opening for sixth BC/BE IM to join growing 17-M.D. multispecialty clinic. NO CAPITATION. Two hours from Twin Cities. No practice start-up costs. Located near beautiful lakes and trees. Ideal for raising a family. Call collect or write: Curtis J. Nielsen, (218) 829-0354 or 829-4901, PO Box 524, Brainerd, Minnesota 56401. 4-3/88

**Family Physician** to join the medical staff of two family practitioners in a well-established, growing clinic in central Minnesota, along the southern shores of beautiful Mille Lacs Lake. Excellent sub-specialty support, progressive salary and fringe benefit program. Call collect, (612) 676-3661, or write c/o Nancy Swenson, Clinic Manager, Mille Lacs Family Health Center, PO Box 53, Isle, Minnesota 56342.5-4/88

**Family Practice Opportunity:** Two-doctor clinic to add third family practitioner, summer of 1988. Shared call with 9 family practitioner-affiliated clinic. Close specialty back-up. 288-bed facility. 6,000 population community in northwest Twin Cities suburb. Competitive Twin Cities' area salary and excellent benefits. If interested, contact: Dr. James Walker at (612) 421-3680 (office), or 427-5704 (home) or Mr. Richard Moore at (612) 421-3680. 6-5/88

**Internist BE/BC** to join two young internists in growing practice in Michigan's beautiful Upper Peninsula. New local hospital. Campus for Michigan State University Medical School. Community of 15,000. Send CV or call: Drs. Spender and Kuehnl, 218 South 10th Street, Escanaba, Michigan 49829; (906) 786-1563. (R)

**Southwestern Minnesota Community** of 1,500 is seeking a primary care physician to join another physician in an active family practice (non-HMO) clinic. A 17-bed hospital and 41-bed intermediate care nursing facility are located within the community. Excellent location and potential for personable, aggressive individual in a quiet, rural setting. Preferred BC/BE. Send inquiries to: Timonthy E. Nealy, M.D., Adrian Medical Clinic, Adrian, Minnesota 56110, (507) 483-2845; or Charlotte Heitkamp, Administrator, Arnold Memorial Hospital, Adrian, Minnesota 56110-0279; (507) 483-2668. (R)

**Family Physician** who enjoys obstetrics wanted to join a progressive family-practice-oriented group in Wadena, Minnesota. This is an excellent opportunity for a self-starter who enjoys work, as the clinical practice is busy. Beautiful area, great community for family. For details contact: Dr. Tim Schmitt, (218) 631-1360, or James Lawson, Administrator, Tri-County Hospital, Wadena, Minnesota 56482; (218) 631-3510. (R)

**Pediatrician** wanted to join a 40-physician multispecialty group in northern suburbs of Minneapolis. The appropriate candidate will join the current Pediatric Department of four physicians in a very busy practice. Please address inquiries to: Bradford McKane, Comprehensive Medical Care, PA, 9055 Springbrook Drive, Coon Rapids, Minnesota 55433 or phone (612) 780-7032. (R)

**Family Physician** to join group of board certified family practitioners and one board certified general surgeon. Liberal vacation and education allowances. Competitive salary first year with incentive bonus and full membership after one year. Blue Earth is a community of 4,000 in southern Minnesota with a drawing area of 25,000. 43-bed hospital with adjoining clinic facilities. Complete ancillary support including anesthesiology, radiology, and pathology. Excellent opportunity for an aggressive young family physician. Please contact: Thomas E. Watts, M.D., Blue Earth Medical Center, Ltd., 520 South Galbraith, Blue Earth, MN 56013, Phone: (507) 526-7371, Personal Phone: (507) 526-3177; Marjeane Werner, Clinic Administrator, Phone: (507) 526-7371, Personal Phone: (507) 854-3682. (R)

**Wanted: Family Practitioner, Internal Medicine:** Central Minnesota. Starting salary $55,000. Write: Minnesota Medicine (813), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. (R)

**Emergency Medicine:** for emergency physician who possess excellent clinical and trauma skills within a group of seven Emergency Room physicians. Located in beautiful northwest Wisconsin area. Please send CV to: Dr. M. Jaghlit, 900 West Clairemont Avenue, Eau Claire, Wisconsin 54701; or call (715) 839-4404. 6-4/88

**Pediatrician:** BC/BE, to join four busy pediatricians in progressive multispecialty group of 70 physicians. Excellent, active pediatrics unit, level II nursery at nearby community hospital. Referral area 150,000. Liberal financial benefits, high quality of life, and many outdoor recreational opportunities. Send CV and references to: Timothy V. Swanson, M.D., Affiliated Medical Centers, 101 Willmar Avenue SW, Willmar, Minnesota 56201 or call (612) 231-5000. 6-4/88

**Family Practice For Sale:** Ideal location in outer metropolitan Twin Cities area. Includes X-ray, modern lab, and all ancillary equipment, which is in excellent condition. Reasonably priced. Ideal situation for family physician who wishes to take over existing practice and enjoy immediate patient load and income. Practice easily expandable, if desired, in this rapidly growing area. Write: Minnesota Medicine (816), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. (R)

**Windom, MN - Two BC/BE FPs Needed** to join expanding, aggressive practice. Senior partner with fellowship in geriatrics; junior partner residency-trained. 10-year-old JCAH-accredited hospital. Beautiful 2-year-old, 6-doctor clinic adjoining hospital. Candidates must do OB. Possible academic affiliation. For the best in a progressive practice with the advantages of small-town living contact: Windom Clinic Ltd., James A. Gamache, M.D., Route 2, Box 63B, Windom, Minnesota 56101, or call collect: (507) 831-2550 or (507) 831-2400. 6-4/88

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**Twenty-nine Physician Multispecialty Clinic** located in desirable east-central Wisconsin location is seeking board certified or board qualified orthopedic surgeon to round out its services. Lab, X-ray, excellent hospital. Liberal quarantee and benefits. If interested, contact: D.F. Sweet, M.D., Fond du Lac Clinic, S.C., 80 Sheboygan Street, Fond du Lac, Wisconsin 54935. (R)

**OB/GYN,** board certified or eligible, to join highly progressive, rapidly growing practice. Normal and high-risk obstetrics emphasized along with highest levels of infertility care (microsurgery, GIFT, IVF, laparoscopic laser surgery), as well as extensive gynecology and surgery practice. Easy lake country or Milwaukee suburban living. Salary and guarantees to meet your needs with opportunity for partnership in one year. Available July 1988, or earlier. Contact: Matt Meyer, M.D., Women's Health Care, S.C./Milwaukee Regional Fertility Center, 426 West Main Street, Waukesha, Wisconsin 53186; (414) 549-1333. 4-2/88

**40-year-old Internist Seeks BE/BC Internist** to provide locum tenens in this central Minnesota resort community. Beautiful lakes and expanding retirement area. New 162-bed hospital with all specialties. Offices in five-year-old medical office building. Write: Minnesota Medicine (807), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. 4-2/88

**Family Physician Sought** to join a group of five board certified family physicians practicing in a city of 3,500 population in the beautiful Minnesota River Valley. New hospital with new attached clinic and satellite locations with the very latest in equipment. Very busy, growing practice. Contact: D. Carter, M.D., (612) 564-2511 (office), (612) 564-4409 (home), 295 Tenth Avenue, Granite Falls, Minnesota 56241. (R)

**Family Practice:** We are in need of two family practice physicians, preferred board certified, to cover expanding service area. Sandstone Area Hospital/Nursing Home is a 30 bed acute and 86 bed long-term care facility with a clinic located next to the facility staffed by two full-time physicians. Sandstone is located in Northeast Minnesota's heartland, providing rich recreational activities. For more information, call/write: James G. Blum, Administrator, Sandstone Area Hospital, 317 Court, Sandstone, Minnesota 55072; (612) 245-2212. *(R)

**General Surgeon and Family Physician** needed for busy five-physician practice. Guaranteed first-year salary with excellent benefits program. Located only 22 miles from Duluth on the beautiful North Shore of Lake Superior. Call collect: (218) 834-2171, or write Steve Bjorum, Executive Director, Community Health Center, 4th Street at 11th Avenue, Two Harbors, Minnesota 55616. (R)

**Physicians Needed:** Opportunities nationwide!! Call (612) 633-4990 or send CV to: Earl Czech, North Central Staff Services, Inc., 443 — 8th Street NW, St. Paul, Minnesota 55112. (R)

**Family Physician:** Twin City convenience care center seeking full-time or part-time family physician to provide care for minor emergencies and illness. Competitive salary. Send CV to: Richard M. Gebhart, M.D., Grove Square Convenience Care, 13800 83rd Way, Maple Grove, Minnesota 55369; or call (612) 420-5822 days or (612) 420-5279 evenings. 7-4/88

**Family Physician/Emergency Room:** Full-time salary working weekends, primarily emergency room. Flexibility available. Falls Medical Center, PA, 105 Shorewood Drive, International Falls, Minnesota 56649. Please contact: A. Johnson, M.D., or A. Marc Gorden, M.D., at (218) 283-9431 for more information. (R)

**Family Practitioner, General Internist, and General Surgeon** to join 8-physician clinic in Cloquet, Minnesota, a community of 14,000 (30,000 service area), located 20 minutes from Duluth-Superior. The clinic facility is located one block from modern, well-equipped hospital. Cloquet enjoys a stable economy (forest products). Additionally, our community is noted for its excellent school system. First-year salary guarantee, paid malpractice, health and disability insurance, vacation, and study time. Contact: John Turonie, Administrator, Raiter Clinic, Ltd., 417 Skyline Boulevard, Cloquet, Minnesota 55720; (218) 879-1271. (R)

**Family Physician** needed to replace retiring partner in thriving 3-FP full-service practice in Starbuck, Minnesota, on the state's thirteenth largest lake. Good hunting and fishing. Modern nine-year old hospital. Twenty miles to University Campus. Call or write: Robert Bosl, M.D., Starbuck Clinic PA, Starbuck, Minnesota 56381; (612) 239-2231. (R)

**Internist** needed to join well-established practice in a community of 45,000. First-year salary guarantee with excellent fringe benefits. Contact: Diagnostic Center, 304 Belle Avenue, Mankato, Minnesota 56001; (507) 388-1655. (R)

**Bemidji, Minnesota:** Immediate opportunity for an additional Board Certified/Eligible orthopedic surgeon to join young 26-physician multispecialty group practice located in Northern Minnesota. Clinic adjacent to modern, well-staffed and equipped hospital. Competitive salary guarantee plus incentive first year. Excellent benefits and educational leave. An excellent opportunity for a physician to enjoy the practice of orthopedics in the center of hunting, fishing, and clean air. Please respond with CV to: Thomas E. Miller, M.D., or C.C. Lowery, Administrator, Bemidji Clinic, Ltd., 1233 34th Street NW, Bemidji, Minnesota 56601. (R)

**Arizona-Based Physician Recruitment** firm has quality opportunities coast-to-coast. Available positions in most primary care and surgical specialties to include Ob/Gyn, Orthopedics, ER, and ENT. "Quality

Physicians for Quality Clients since 1972." Call (602) 990-8080; or send CV to: Mitchell & Associates, Inc., PO Box 1804, Scottsdale, Arizona 85252. *(R)

**General Internist:** 14-member primary care group with 10 family physicians and one internist, surgeon, pediatrician and Ob/Gyn, requires a Board Certified general internist to continue to develop a primary and consultative internal medicine practice in Marshall, Minnesota, affiliated with Willmar Medical Center. USUAL CHAMBER OF COMMERCE CLAIMS *NEARLY* TRUE HERE! Contact: C. Paul Martin, M.D., Doctors' Plaza, Marshall, Minnesota 56258; (507) 532-9631 or send CV and references to John Merickel, M.D., Affiliated Medical Center, 101 Willmar Avenue, Willmar, Minnesota 56201. 4-4/88

**Sathe & Associates Executive Search Firm** is currently seeking physicians for positions locally and nationally. Explore new opportunities with a medical professional who is discreet and thorough. Be assured your CV will be handled in strictest confidence. There is, of course, no financial obligation to candidates. To initiate your search, please call or write: Liz Johnson: Sathe & Associates, Inc., 5821 Cedar Lake Road, St. Louis Park, Minnesota 55416; (612) 546-2100 (R)

**General Internist, Urologist, Ophthalmologist, Internist-Cardiologist, Family Practice** positions available with the Mankato Clinic, a 35-doctor multispecialty group practice in South-central Minnesota with a trade area population of 150,000. Salary first year, incentive thereafter, with full range of benefits and liberal time off. For more information, call Roger Greenwald, Administrator, or Dr. B.C. McGregor (507) 625-1811 or write: 501 Holly Lane, Mankato, Minnesota 56001. (R)

**Canterbury Inn Bed & Breakfast:** Rochester's unique alternative to hotel living. Victorian charm with modern comforts. Private baths, fireplace, central air conditioning, gourmet or special diet breakfast anytime, "tea-time" (wine, hors d'oeuvres, etc.) daily. Private, off-street parking, three blocks to Mayo Clinic and St. Mary's. A very special place for you, your colleagues, and your patients while in Rochester. $55/single, $65/double. 723 Second Street SE, Rochester, Minnesota 55902; (507) 289-5553. (R)

**Bemidji Clinic, Ltd.** offers excellent opportunities for well-trained physicians. We are seeking board certified or board eligible physicians in family practice, general internal medicine or with subspecialty training in ear/nose/throat, orthopedic surgery and obstetrics/gynecology. Bemidji Clinic is a 25-physician multispecialty group practice located in the beautiful north country of Minnesota. Generous first-year salary and benefit program. Contact: C.C. Lowery, Clinic Administrator, or H.J. Hoody, M.D., Medical Director; (218) 751-1280. (R)

**BE/BC Family Practice, Internal Medicine, OB/GYN & Psychiatrist:** Excellent opportunity to join a well-established, progressive, 15-physician multispecialty group (7 FP, 4 IM, 2 GS, 1 OB/GYN, 1 DERM) located in an economically sound community of 19,000 (drawing area of 30,000), 65 miles south of Twin Cities. Full membership after one year. One FP retiring in 1987. Competitive salary and fringe benefit package. Contact: Pat Greenwood, M.D., or Jim Wilkus, Administrator, 134 Southview, Owatonna, Minnesota 55060; (507) 451-1120. (R)

**Downtown Office Space For Rent.** Physician in Medical Arts Building, 825 Nicollet Mall, Minneapolis, wishes to sublet to another physician on a part-time basis for the purpose of sharing overhead expenses. Call (612) 370-0553. (R)

**BE/BC OB/GYN or GYN/GYN SURGERY,** to join a busy 11-man multispecialty group in southern Minnesota, a community of 12,000 (trade area of 70,000), competitive salary and fringe benefits. Contact: Don Grandgenett, 8 a.m., Fairmont Medical Clinic, 800 Clinic Circle, Fairmont, Minnesota 56031; (507) 238-4263. (R)

**FP/GP Locum Available for Work** Lic. Minnesota, Wisconsin, SD, ND, Colorado, Utah, Missouri. Contact: Dr. Olin, 10 Riverside Drive, Duluth, Minnesota 55808; (612) 475-9411. (R)

**12th Annual Winter Pediatric Seminar:** February 18-19, 1988. Location: Powderhorn Lodge, Bessemer, Michigan. Further info: Marshfield Clinic's Medical Education Office, 1000 North Oak Avenue, Marshfield, Wisconsin 54449; Phone: (715) 387-9207.1-2/88

**Private Practice Opportunity** in small community 50 miles south of Atlanta. For more information contact: Phillip Jordan, Administrator, Jasper Memorial Hospital and Nursing Home, Monticello, Georgia 31064; (404) 468-6411. *1-2/88

**Wanted:** Board certified/eligible medical oncologist to join active three-person group of oncologists in Albuquerque, New Mexico. This is a fine medical community and extremely pleasant environment. Please reply to: Hematology Oncology Associates, 715 Grand Avenue NE, Albuquerque, New Mexico 87102. 2-3/88

**Locum Tenens Physician:** Join a comprehensive physician support service with a major medical center in southcentral Montana. Locum physicians provide primary care coverage (excluding routine OB) for physicians in rural Montana and Wyoming. Assignments vary in length. Reimbursement for expenses, malpractice, health insurance, CME. Call Locum Tenens Coordinator, 1-800-325-1774, or send CV to 1500 Poly Drive, Suite 103, Billings, Montana 59102. *1-2/88

**Pediatrician,** St. Cloud, BE/BC to join supportive primary care staff in successful and innovative staff-model HMO. New clinic facility. Full range of fringe benefits (competitive salary, liberal vacation, two weeks' education leave, retirement fund, etc.) Contact: Dr. Gary Strandemo, Central Minnesota Group Health Plan, 1245 15th Street North, St. Cloud, Minnesota 56301, (612) 253-5220. EOE. 3-4/88

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Peter Z. Konigsberg, M.D.
Recruitment Director
Capital Area Permanente Medical Group, P.C.
4200 Wisconsin Avenue, N.W., Suite 300
Washington, D.C. 20016

Address OB/GYN inquiries to:

Edward H. Hanton, M.D.
Associate OB/GYN Chief
Capital Area Permanente Medical Group, P.C.
4200 Wisconsin Avenue, N.W., Suite 300
Washington, D.C. 20016

**Family Physician** wanted to join four physicians, one nurse practitioner, FP group practicing in two offices in Pine River and Pequot Lakes. Competitive salary. No OB. No HMOs. Rural area with outdoor recreational opportunities. Rotate hospital visits, emergency call; adequate free time. Call or write: C.R. Pelzl, M.D., Pine and Lakes Clinics, PO Box 88, Pine River, Minnesota 56474; (218) 587-4416. (R)

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**For Sale:** Coherent 930 Argon Laser, two years old, and not used during the past 8 months as we lost our ophthalmologist. Take over balance of lease (34) payments at $685.35, plus residual at 10% of original cost, or purchase from lessee. Write or call: Dalton Braniff, Administrator, Lake Region Clinic, P.C., PO Box 1100, Devils Lake, North Dakota 58301; (701) 662-2157. 3-4/88

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**Waseca, Minnesota:** Family practice physician to join four family practitioners in April 1988. Population 8,000. One hour south of Burnsville Center; lakes; industry. Salary negotiable. Clinic-adjacent hospital. Ample free time to enjoy family life. Contact: James W. Dey, M.D., or Ruth Hawker, 501 North State Street, Waseca, Minnesota 56093; (507) 835-3110. 3-4/88

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**Family Practice:** Two BC/BE family practitioners needed for expanding practice in the St. Cloud/Alexandria, Minnesota, area. Offering $75,000 first-year salary and full corporate membership after one year. Contact: Paul Van Gorp, M.D., (612) 732-2131. 4-5/88

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**Family Practice:** Marshfield Clinic Department of Family Medicine has an opportunity for a BE/BC Family Practice Specialist to join its six-member group. This position offers a high-quality fulfilling practice with both inpatient and outpatient responsibilties. This physician would enjoy the support of one of the nation's largest multispecialty groups. Unique rural setting, excellent salary, plus extensive fringe benefits. Reply with CV to: Steven M. Fontanini, D.O., Chairman, Department of Family Practice, Marshfield Clinic, 1000 North Oak Avenue, Marshfield, Wisconsin 54449; or call collect (715) 387-5168. *1-2/88

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**Family Practice:** Unique opportunity in outpatient family medicine. Marshfield Clinic is seeking a board certified/board eligible family practitioner to join its expanding center in Mosinee, Wisconsin. The center is currently staffed by three family practitioners and a physician's assistant. Full specialty consultation is readily available. Emphasis on quality lifestyle is combined with excellent compensation and fringe benefits. Send CV and references to: Richard G. Nash, M.D., 607 13th Street, Mosinee, Wisconsin 54455; or call collect to (715) 693-6711. *1-2/88

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**Family Practice Physician Opening:** Independent practice in Ankaney, Iowa. Town population 20,000. Related moving expenses will be covered. One-doctor office, possibly 2-3 doctors in office after one year. 20-30 patients/day, competitive salary, life, health, malpractice insurance, incentive negotiable, possible ownership of practice. Please send resume to: Mary Sue Weir, 5601 Smetana Drive, PO Box 1589 Route 7004, Minneapolis, Minnesota 55440-7004. Or call: (612) 936-1941. *1-2-/88

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**The University of Minnesota School of Dentistry** invites applications for Research Fellow (DDS required) and Research Associate (PhD required) positions. Applicants must have at least two years of research training. Positions will provide research expertise in planning and education of research design and methodology. The University of Minnesota is an equal opportunity educator and employer and specifically invites and encourages applications from women and minorities. Send resume, indicating areas of research training to: Dean Richard P. Elzay, University of Minnesota School of Dentistry, 515 Delaware Street SE, Minneapolis, Minnesota 55455. *2-2/88, 5/88

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**The University of Minnesota School of Dentistry** invites applications for part-time, non-regular faculty for consultative diagnostic and treatment planning services in specialty clinics. M.D. required, with training and experience in otolaryngology, cleft palate patient care, and/or physical medicine and rehabilitation with experience in chronic pain. The University of Minnesota is an equal opportunity educator and employer and specifically invites and encourages applications from women and minorities. Send resume (indicating specialty or area(s) of clinical expertise) by 6/30/88 to: Dean Richard P. Elzay, University of Minnesota School of Dentistry, 515 Delaware Street SE, Minneapolis, Minnesota 55455. *2-2/88, 5/88

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**Minnesota/Pediatrician** wanted to join 40-physician multispecialty group in northern suburbs of Minneapolis. The appropriate candidate will join the current four physicians in a busy practice. Please address inquiries to: Dr. Ronald Jankowski, 5300 153rd Avenue, Ramsey, Minnesota 55303; or phone (612) 427-7180. 2-3/88

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**Minnesota/Internist** wanted to join a 40-physician multispecialty group in northern suburbs of Minneapolis. The appropriate candidate will join the current two physicians. Please address inquiries to: Dr. Ronald Jankowski, 5300 153rd Avenue, Ramsey, Minnesota 55303; or phone (612) 427-7180. 2-3/88

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**Wanted:** physician to work Urgent Care Center full time or part time. If interested, please contact: Dr. Ronald Jankowski, 5300 153rd Avenue, Ramsey, Minnesota 55303; or phone (612) 427-7180. 2-3/88

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**Hutchinson, MN - Seeking BE/BC Family Practice Physician** to join established, successful physicians group. Modern, well-equipped clinic and hospital located in Hutchinson, Minnesota, a progressive and growing community 60 miles west of the Twin Cities. Competitive compensation package. Send CV to: Brenda Maiers, HMC, 1091 Highway 15 South, Hutchinson, Minnesota 55350. 3-4/88

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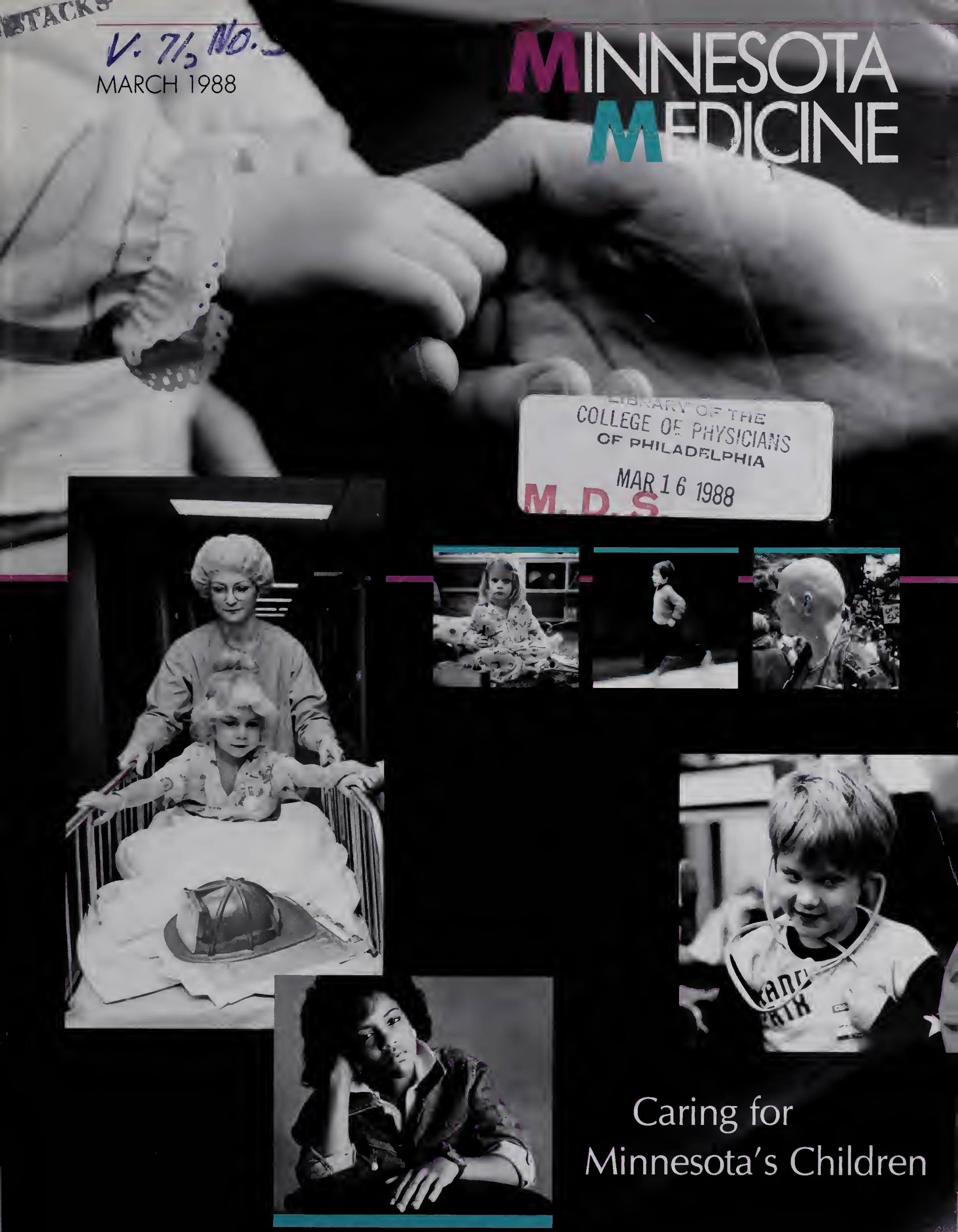

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A JOURNAL OF CLINICAL AND HEALTH AFFAIRS

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MINNESOTA MEDICINE
Caring for Minnesota's Children

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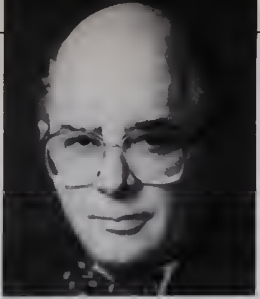
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## EDITOR'S NOTEBOOK

# The Worlds of Children and Pediatricians

This is our third try at a "new" *Minnesota Medicine*. If I may be honest about these tries, we're still nosing around, sniffing for the right mix that will please you and us. We shall also be trying other things in the next two issues: in April, we will have a general issue featuring diverse subject matter, and in May, we will poke our editorial noses into the nooks and crannies of AIDS in Minnesota.

Why these five experiments in five months? Because the Minnesota Medical Association Board of Trustees meets in May, and we want to have five different approaches under our belt and under your nose so you can tell us what you think. We would like to meet and talk with you about the new *Minnesota Medicine* at that meeting. Nothing beats eye-to-eye, nose-to-nose, and toe-to-toe exchanges in making your feelings known.

Let's look at what we've done these first three issues.

■ In our first go, in January, we had a run at fleshing out what "competitive medicine" means. Among other things, we found that physicians feel increasingly powerless in today's competitive health care system. And many feel their medical education left them unprepared to handle the business of medicine.

■ In our February issue, we gave you a sense of what medical high technology means in a state like Minnesota. If we've learned anything from Minnesota's massive venture into managed health care, it's this: HMOs and other health plans don't dampen demands for high technology one whit. HMOs might drive the price of most routine procedures to their "marginal costs," but the public wants access to modern medicine's wonders. The hospitals and physicians are only too happy to supply these new technologies. And why not? They are simply too good to keep off the market. Besides, having the latest technology differentiates you from your competition. The ensuing medical arms race may drive up costs in the short run, but it pulls in customers.

■ Now, in this, the March issue, we feature the worlds of the child and those who care for the child.

I have used the word "worlds" in the title of this editorial because children and pediatricians often live in separate worlds from the rest of us.

**Children have their own music, their own heroes, their own culture, their own markets, and their own tragedies.**

Children, you may have noticed, inhabit a different planet. They have their own music, their own heroes, their own culture, their own markets, and their own tragedies. For the young children, there is often the grim and grime of poverty. Children make up 40 percent of the poor in the U.S., and the earning capacity of their parents, those under 30, has dropped dramatically—by as much as 30 percent—in the last ten years. For adolescents, there are the overwhelming problems engendered by widespread permissiveness, the disintegration of the family, and the overindulgence and consequences that ensue—drug and alcohol addiction, unwanted pregnancies and maternal deaths, sexual abuse and prostitution, psychological disorders and suicides, and violence and death.

Pediatricians, too, live in a different medical universe than most of us. In large cities, pediatricians often practice in children's hospitals, apart from hospitals other doctors frequent. You won't often see pediatricians in hospitals anyway. Pediatrics tends to be an outpatient practice. Pediatricians concentrate on a set of different problems—those of prevention through immunization, on the special developmental problems of childhood, or on the psychological traumas of adolescence. Pediatricians make less money than other specialists, and their "real" median income is dropping faster. From 1975 to 1985, the "real" income of doctors as a whole dropped 5.0 percent, but for pediatricians it plummeted 16.1 percent. To make matters worse, the number of women pediatricians is higher than in any other specialty, and women physicians are paid less than their male counterparts. According to the AMA, among all physicians, the mean net income for males is $118,000 and $73,100 for women. For pediatricians, these figures are $85,000 and $55,100.

So this issue is about different worlds, and how we, as a profession and a society, are going to understand and cope with the demands of these worlds.

# LETTERS
# TO THE
# EDITOR

## Generic Anticonvulsants

Generic substitution has become a problem for some patients with epilepsy. Because of the very narrow therapeutic range of the anti-epileptic drugs, such as phenytoin and carbamazepine, and the variation in bio-availability and absorption rates, even within FDA standards, both breakthrough seizures and toxicity have occurred in otherwise well-controlled patients in switching from brand to generic, generic to brand, and between generic formulations. The problem is compounded by the large number of manufacturers and an even greater number of distributors of the generic anti-epileptic drugs. This is not simply a local problem, as evidenced by the recent statement issued by the Epilepsy Foundation of America. Although generic medications are an appropriate cost-effective alternative that we endorse for some anti-epileptic drugs, they have caused difficulties in a number of cases. We would like to bring this problem to the attention of the physicians of Minnesota and feel it may be an appropriate focus for the Minnesota Medical Association. Thank you for your attention.

*Joanne B. Rogin, M.D.*
*Chair, Professional Advisory Board*
*Epilepsy Foundation of Minnesota*
*St. Paul, MN*

### Epilepsy Foundation of America Statement on Generic Anticonvulsants

The Epilepsy Foundation of America is seriously concerned about mandatory substitution of generic anticonvulsants without prior approval of the patient and treating physician. Generic formulations of a number of widely used anticonvulsants (carbamazepine, phenytoin, primidone, and valproic acid) have recently become available and present the opportunity to reduce costs.

Some states and some institutions (including prepaid health plans) have mandated that the pharmacist fill a prescription with the least expensive available drug.

There may be significant differences between the characteristics of brand name and generic anticonvulsants, as well as among generic anticonvulsant drugs. The fact that these differences may exist could result in adverse effects, including loss of seizure control and the development of toxic side effects.

Change from one formulation to another can usually be accomplished, and risks minimized, if physicians and patients monitor blood levels, seizures, and toxicity.

The Epilepsy Foundation of America, therefore, strongly advises that rule-making bodies—including those at the federal and state levels, as well as prepaid medical plans, institutions such as hospitals, correctional facilities, residential facilities, and others who make decisions about the availability of certain medications—be made aware of the potential adverse effects of changing from one formulation of an anticonvulsant to another without the prior expressed permission of the treating physician and the agreement of the patient.

## Asthmatics Out in the Cold

Asthmatics who use metered dose sympathomimetic inhalers (metaproterenol, albuterol) should be cautioned about possible dysfunction of these units during cold weather. This occurs because of the Ideal Gas Equation: pressure X volume = n X R X temperature, where n is the number of moles and R is a constant. When the unit is exposed to cold, the metered dose may not be delivered under adequate pressure for effective delivery of the medication. This is particularly true if the contents are partially depleted (n is smaller). Therefore, asthmatics who live in cold climates should be advised to carry a full inhaler in an inside pocket where it is warmed by body heat, take one dose before leaving a warm area (automobile, cabin) prior to an outing, and shake the unit before each use. This is especially true for those who have cold- or exercise-induced bronchospasm and participate in outdoor activities. An inhaler that dysfunctions due to cold can be warmed by rubbing the canister vigorously in the palms for a few minutes.

*D. William Kitzman, M.D.*
*Fellow in Internal Medicine*
*Mayo Graduate School of Medicine*
*Rochester, MN*

*continued*

## On *Minnesota Medicine*

I just received the January issue of the "new" *Minnesota Medicine*. It's beautiful! I want to congratulate you and your staff on its excellence. The cover is most appealing as well as clever, and the inside layout is attractive and easy to read. The range of articles is extensive, and I trust of much interest to your physician members.

I commend you for the extra effort such a change involved.

*Susan J. Dillon*
*Managing Editor*
*Journal of the Medical Association of Georgia*
*Atlanta, GA*

## And . . .

Seldom do I grow tearful at my desk, but the arrival of the January issue of *Minnesota Medicine* produced a reaction approaching that state.

I am not referring to the content change, which is an imaginative step and one that follows similar though less dramatic changes in *Connecticut Medicine*, changes that reflect the changing times and needs of the medical publishing field.

The much admired *Minnesota Medicine* has been in the forefront of efforts to accommodate, and when appropriate, resist, these profound changes. At *Connecticut Medicine*, we have often commented on the excellence of your editorial content and vision. I will continue to admire and enjoy this new phase.

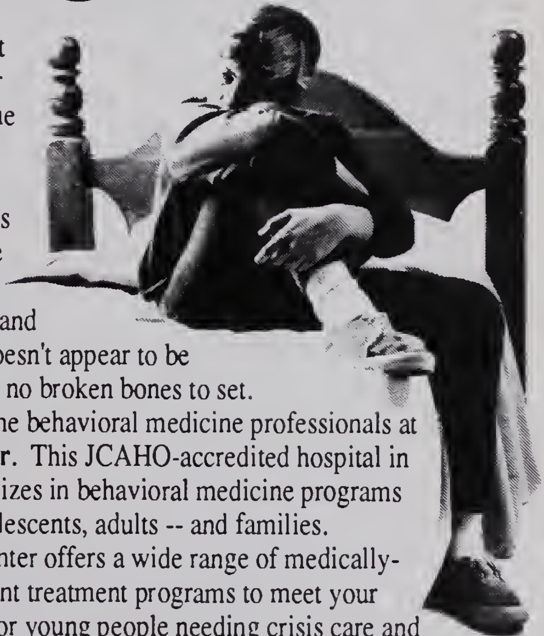
My source of disquiet is the new format. I may be getting into trouble by telling you that I find the typeface of your main title and inner titles a disaster. The use of the bold capitals with thin san serif type is ugly in my eyes and cries out that "media experts" have invaded the forest. The art work is OK but reminds me of a hundred commercial throw-aways. It is good to know that gorgeous photographs will continue to grace your cover in the future.

The December 1987, cover was outstanding, as a photograph, as an artistic vision, and as an achievement in color reproductions. Best wishes for continued success.

*John L. Meyer, II, M.D.*
*Director*
*Day Kimball Hospital*
*Putnam, CT*

## Correction

John C. Hulbert, M.D., F.R.C.S., author of the article "Recent Advances in the Treatment of Urinary Calculi" (*Minnesota Medicine*, February 1988), is an associate professor at the University of Minnesota, as indicated in the article. He does not work at the Mayo Clinic, as stated in that issue's *Editor's Notebook*. The editors regret the error and extend our apologies.



# Is your young patient running away without leaving home?

You see him but you can't touch him. Or talk to him. Or even get him to look you in the eye. His parents don't know what to do anymore.

At first you thought it was only a phase, but it's not. The child has stopped seeing old friends, lost interest in sports and skips school. The problem doesn't appear to be physical. This time, there are no broken bones to set.

What can you do? Call the behavioral medicine professionals at **Golden Valley Health Center.** This JCAHO-accredited hospital in suburban Minneapolis specializes in behavioral medicine programs and services for children, adolescents, adults -- and families.

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# Of Foxes, Hedgehogs, Children, and Pediatricians

MM *Dr. Anderson, you've been a pediatrician in the Twin Cities for 30 years. You trained at the Mayo Clinic in the 1940s. You were instrumental in setting up and developing the pediatrics department at the Park Nicollet Clinic, and you were there for 22 years. You were a moving force behind the building of Minneapolis Children's Hospital, now 15 years old. You have a rich and varied experience in pediatrics and in being an advocate for children. Let me start by asking: how do children differ from other patients?*

ANDERSON Children differ in four ways.

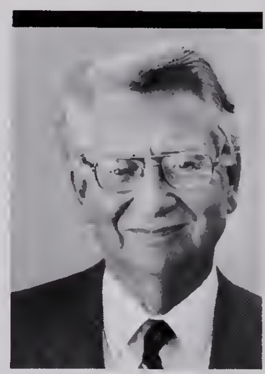
First, they're at high risk. Consider the premature and the handicapped neonate.

Second, they're in the formative stage of their life. Health services to children, particularly hospitalization, have a very critical effect on children. Back in the '60s, when we were doing research at Children's Hospital, we found more children had become unemployable or social isolates as adults because of their emotional handicaps than because of their physical deformities. The formative stage has a tremendous amount to do with children's emotional development, and the hospital experience has a tremendous impact on that.

Third, children are dependent on the community. A child spends limited time in the hospital and doctor's office, but how this time affects the child depends on how his parents accept him, what attitudes the family holds, what school teachers' attitudes are, what the scout master's attitudes are. Health services for children are very community oriented.

And, children are financially dependent on other people. They have to have financial champions because they don't have any finances themselves.

MM *Because of these factors, because of social trends like more drug use, and because children now make up 40 percent of the poor, today's children may be more vulnerable than ever. Would you agree?*



**ARNOLD S. ANDERSON, M.D.**

ANDERSON There's no question about it. Children today are very vulnerable. Indeed, in 1980, the Year of the Child, the vulnerability of Third World children became a major issue. Children were taking care of children.

I remember meeting with the

**Anderson** *to page 164*

*When I interviewed him, Arne Anderson reminded me of an old fox. He had the color of an aging fox, with red hair turing gray. His face, his gait, and his wisdom were those of a fox. Besides, while practicing pediatrics for 45 years, seving as father to ten children, and functioning as mover, shaker, and consensus-maker in launching and sustaining Children's Hospital in Minneapolis, he often has played the role of a fox.*

*Now, as I reread this interview, I've changed my mind. Arne's a hedgehog, not a fox. A Greek sage quipped, "The fox knows many things, but the hedgehog knows one great thing."*

*What one great thing does Arne know? He knows children aren't miniature adults. The child's world differs. Children have imagination. They populate their planet with demons, fairies, witches, talking animals, whispering trees, and nature's wonders.*

*The great California horticulturist, Luther Burbank, anticipated Arne's view when he said: "Every child should have mudpies, grasshoppers, water bugs, tadpoles, frogs, mud turtles, elderberries, wild strawberries, acorns, chestnuts, trees to climb, brooks to wade in, water lillies, woodchucks, bats, bees, butterflies, various animals to pet, hayfields, pine cones, rocks to roll, sand snakes, huckleberries, and hornets, and any child who has been deprived of these has been deprived of the best part of his education." Nary a medical name appears in this list. But for the hedgehog or compleat pediatrician, the list is deeply scientific.*

*When childhood illness strikes, Arne believes in protecting the child's world against adults. He thinks of himself as the Champion, the Promotor, and the Protector of the World of Children. That's not such a childish thought.*

# Suffer the Children

*I've never met Dr. Roy Schwarz, assistant executive vice president for medical education and science at the AMA. I conducted this interview over the phone. But you can tell a lot about a man's character, compassion, and even the cut of his jib from his voice.*

*Dr. Schwarz's voice is engaging and compelling. Its force pulls you effortlessly and directly into the flow of his message, which is this: America's adolescents are suffering. We've pushed them (or events have pulled them) into a world with too many choices, too many temptations, too many demands, and too little emotional support.*

*Something is badly wrong with America's attitude toward those aged 12 to 18 in our society. We don't know whether to treat them as children or adults, and we lapse into a dark humor to show our discomfort:*

- *We chide them if they regress to childhood or progress toward adulthood ("An adolescent is a teen-ager who acts like a baby when you don't treat him like an adult").*
- *We joke about their pseudo-maturity ("Adolescence is the age at which children stop asking questions because they know all the answers").*
- *We resent their independence ("Adolescence is an independent state, highly taxing yet often insolvent, located just beyond comprehension").*

*But to adolescents, life is no kidding matter. It's dead serious—full of drugs, death, violence, self-destruction, venereal disease, pregnancies, and bad health. The emotional toll of all of this is hard to judge. But as you listen to the sound Dr. Schwarz's voice makes on paper, you'll become aware, as I have, that adolescence is a dangerous time, and we ought to give serious attention to helping our children prevent and survive its special traumas.*

MM *What's the genesis of the AMA White Paper on Adolescent Health?*

SCHWARZ It started with the concern of a black female, a pediatrician in Chicago who encountered all kinds of problems in the adolescent population she was caring for, and she saw the problems getting worse. Simultaneously, she saw fragmentation of the problems occurring. There were groups interested in drugs and teen-agers, groups interested in pregnancy and teen-agers, groups interested in violence and teen-agers. But nobody was pulling the three groups together.

MM *Was it an inner-city population with deep troubles?*

SCHWARZ Yes. And this pediatrician came to the AMA and shared her concerns with Dr. James H. Sammons, executive vice president of the AMA, who identified with everything she was saying. He said, "Let's take a look at it and then do something about the problem." So in combination with work we'd already done, we put together the adolescent white paper. As we pulled all the statistics together, they became frightening in their dimensions. We made a decision to do something in the area of adolescent health, and out of that came our whole adolescent health initiative.

M. ROY SCHWARZ, M.D.

MM *What is the adolescent health initiative?*

SCHWARZ It's a doctor-led initiative to create coalitions at the national, state, and local levels of all the agencies and organizations that should—and most of them do—have an interest in adolescent health or some part of it.

It's envisioned at the national level as having a coalition made up of churches, businesses, labor, schools, professions, government, philanthropic organizations, and service organizations. It will serve as a national clearinghouse of information where people can write to get information on any and all aspects of adolescent health. It's a databank providing an assessment of intervention methods or prevention strategies that have been tried. If you're in rural Idaho and you're losing a lot of kids to accidents related to drinking, and you want to know what's been done elsewhere in the country, you could call us and get a computer printout listing what other people have been doing about the problem and how it's worked in various settings.

It's also envisioned as a place where unanswered questions will be defined and brought to the attention of government agencies or private agencies like the Carnegie Foundation.

We also see ourselves as a forum for communication. We plan to periodically publish something, maybe as frequently as every year, or maybe hold a national congress on adolescent health initiatives. All of this would be part of the initiative in which we take a global look at all the problems affecting adolescents.

MM *So this is really a positive step by the AMA to show its concern about a profound problem. Did the magnitude of this problem surprise you?*

SCHWARZ Yes. We knew what the figures were for drugs, we had a feeling about the sexuality problems, and we had a little bit of feeling about runaways and trauma, but until you see them laid out on one page in hard, cold facts, you still have this myth in mind that the adolescents are a healthy population.

MM *In reading your executive summary, I was struck that the health status of these 12- to 18-year-olds has deteriorated in the last 20 years, by 11 percent if you look at mortality and morbidity statistics.*

SCHWARZ That's right. The one that I always remember is there are 900,000 prostitutes under the age of 18, the average age is 15.2, and dropping; 600,000 are females, and 400,000 are males. These are stunning figures.

We hope coalitions are created at the state and local levels, again with doctors taking the lead. The house of medicine is united on this one—pediatricians, the adolescent medicine people, the adolescent psychiatrists, the obstetrician/gynecologists—anybody who has an interest in and is involved with adolescents.

MM *You're one of the principal contributors to the white paper. What is your personal role in this?*

SCHWARZ I've been part of an

# AMA WHITE PAPER ON ADOLESCENT HEALTH

## EXECUTIVE SUMMARY

Long viewed as a time of golden opportunity, adolescence today is, for many, a time of peril to physical and mental well-being. Indeed, both morbidity and mortality rates for adolescents are 11% higher today than they were 20 years ago. Multiple factors have a role:

### Substance Abuse

- Two-thirds of American youth use an illicit drug before they finish high school, and one in five high school seniors smokes cigarettes daily.
- One in 16 high school seniors drinks alcoholic beverages daily, and 41% report that they have consumed five or more drinks on one occasion.

### Sexuality/Pregnancy

- Teen-age mothers account for 46% of all births to unmarried women and a third of all abortions.
- Two-thirds of all sexually active adolescent girls do not routinely use birth control.
- Maternal mortality is 2.5 times higher in girls under age 15 than in women in their twenties.

### Victimization

- 24% of all fatalities and 41% of all serious injuries in reported cases of physical abuse involve persons aged 12 to 17.
- 6% of all boys and 15% of girls experience sexual abuse by the age of 16.
- Half of all rape victims are less than 18 years old.
- 600,000 teen-age girls and 300,000 boys work as prostitutes; their average age is 15.

### Psychological Disorders/Suicide

- 5,000 persons under age 19 commit suicide each year, and 50,000 attempt it.
- Up to 10% of teen-age girls suffer severe eating disorders such as anorexia.

### Violence/Trauma

- 80% of deaths in 15- to 24-year-olds are secondary to accidents, suicides, and homicides.
- Adolescents are responsible for a third of all violent crimes.

These problems have deep and complex roots and will yield to no simple solutions. However, AMA has the expertise and experience to mount a comprehensive demonstration project that addresses the most pressing health issues. Such an initiative would lead to development of medically sound, experimentally tested models and guidelines for use by individual physicians in meeting the broad health care needs of the adolescents in their practices and their communities.

informal in-house task force. The initiative falls under my administrative responsibility. As a spokesperson, I've been communicating with many of the agencies involved.

**MM** *How did you rise to your present position? What is your background?*

**SCHWARZ** I'm a physician, but I spent the first part of my career as a bench researcher in immunology and cellular immunology. Then I became associate dean of the medical school at the University of Washington, where I put together a four-state medical education program called WAMI, a decentralized effort that covered the states of Washington, Alaska, Montana, and Idaho, hence WAMI. Then I was dean of medicine at the University of Colorado and following that, vice-chancellor for academic affairs. Then I came here as assistant executive vice president for medical education and science.

**MM** *And do you think the AMA ought to be doing more of these kinds of things? Does this venture excite you?*

**SCHWARZ** Yes. But I don't think we are naive in our views. We know that the problems adolescents are having are simply mirror images of society's problems. And so, as we try to do something about the problems adolescents are facing, we are taking on, in large part, the problems that are vexing society.

**MM** *What are these problems? Is it that life is moving too fast, that there's too much stress, too many choices? How do you diagnose the problems?*

**SCHWARZ** It's all of those. It's a breakdown in family. It's a breakdown in common themes of morality and ethics. It's the nuclear family shifting to an expanded family and even beyond. It's a reduction in the quality of our educational programs. It's a declining influence of churches.

**MM** *It's basically the fragmentation of American society in a population group that is ill-prepared to cope with it.*

**SCHWARZ** That's a good way of putting it. We had a teleconference recently on juvenile suicides. We had as our panelists three or four people who spent all their lives studying troubled adolescents. Again and again they came back to a common theme: the person who either attempts and/or succeeds in suicide is an individual who has no self-stature, whose personal image is zilch. They think life is not worth living and that they're no good themselves. You start thinking about what it is that contributes to people's self-images, and you come up with lots of areas where work should be done. Many of these children just don't have any support system.

**MM** *The children come home, and both parents are working . . .*

**SCHWARZ** Or they have no parents, or divorced parents, or multiple parents. They don't know who they are, they don't know where they are, they don't know where they've come from, they don't know what they believe. It's pretty bleak.

I think about when I was a child. When I came home I knew people were going to be there.

**MM** *Where did you grow up?*

**SCHWARZ** In Idaho. My dad was killed when I was seven. But there was never any question of who I was, where I was, what my heritage was, that I belonged or that there were expectations of me. The support systems were there when I needed them. But many youngsters today don't have any of those things.

**MM** *So they sink into the abyss?*

**SCHWARZ** Yes. And life just washes over them.

**MM** *Do they ever recover from this?*

**SCHWARZ** Yes. In fact, there is some exciting research that tracks youngsters who start to smoke at age 9, 10, or 11. The researchers are looking at factors that influence the likelihood that they'll be smoking as an adult, and analyzing the differences in the outcome between one group of kids and another. Those studies have shown that structure, expectations, belief systems, and support systems are key factors. If these exist, the likelihood the youngster will continue to smoke, the likelihood he'll get into drugs, or into precocious sexual activity, drops dramatically. Those are the kinds of things we've got to take on. And they have been going on for 50 to 60 years. They're not going to be turned around immediately by the AMA through a program like this.

**MM** *Or by the federal government.*

**SCHWARZ** Or anybody else. Society has to decide to turn things around. But the role of our coalition is to bring the problem to the attention of society in such a way and with such force that society can't deny it. These kids are the future. They are our future. They are our kids.

A Progress Report from Kids with Epilepsy

For more and more kids like these, epilepsy is just part of a normal life. While it can still present serious problems, most children today can achieve effective seizure control. These kids prove it. Thanks to medical progress—and understanding—they're doing just great!

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Epilepsy Foundation of America

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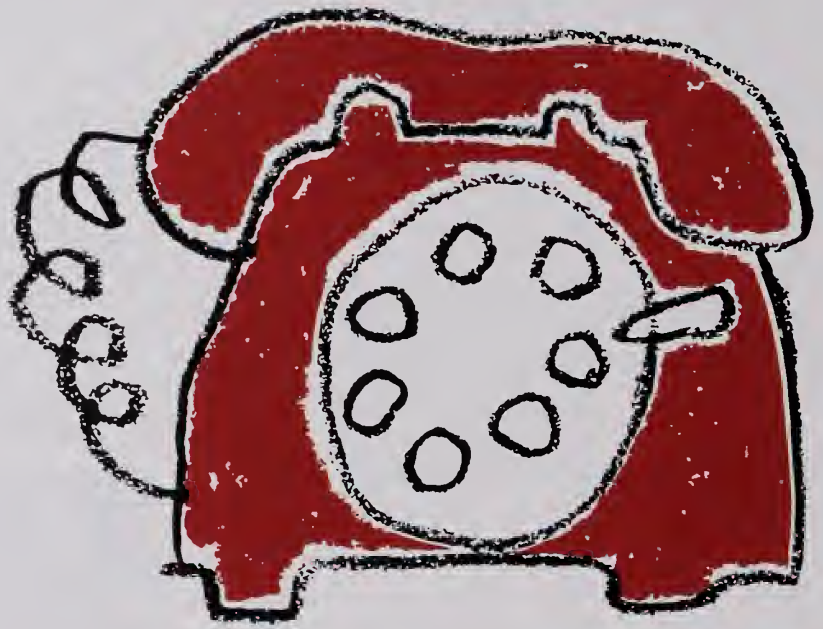

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# Paying for Medical Technology

*Judith M. Walker, J.D.*

*The question of who pays for medical advances calls to mind the last time I flew. The pilot came on the intercom and said, "Good morning, ladies and gentlemen, this is your pilot speaking. We are cruising at an altitude of 6,000 feet and a speed of 350 miles per hour, and I have some good news and some bad news for you. The bad news is, we're lost. The good news is, we're making excellent time."*

So it is with medical technology. The good news is people are now capable of surviving with medical conditions that five to ten years ago were simply untreatable. But the medical costs incurred in achieving and maintaining survival can be astronomical.

Determining what health services are needed to lead a normal, full life and apportioning payment for them are age-old problems. Efforts to deal with these issues provided the impetus for the development of such programs as insurance, medical assistance, special education, and Medicare. But the payment issue has intensified in recent years with the advancement of medical technology.

Particularly troublesome are payment issues that involve health services for children. Often in these cases, there are many potential payers, the costs are extraordinarily high, and payment responsibility is unclear.

Take, for example, the chronically ill infant with multiple handicapping conditions who is discharged from intensive care to home and is attending school through special education programming. Among other services, the child might require mechanical equipment support, such as respirator support or continuous oxygen, to maintain basic life functions; daily monitoring of care by professional staff to minimize progression of the disease (not to cure or improve the condition); and continuous extraordinary adult care for activities of daily living, including special feeding, ostomy care, positioning, and mobility assistance. All tolled, the services could cost up to $750 a day, perhaps more.

The health services required by this child may be eligible for coverage through her family's private health plan, special education, or medical assistance, among other programs. In attempting to sort out the payment responsibilities, we might ask, "Are the health services primarily educational in nature?" (If yes, maybe education should pay.) "Are the health services primarily medical in nature?" (If yes, maybe the family's private health plan should pay.) "Do the services constitute custodial care, or are they primarily rehabilitative in nature?" (Depending on the answer, maybe medical assistance, or maybe the private health plan should pay.)

**Payment issues have intensified with the advancement of medical technology.**

Application of this kind of categorical analysis to the health services required by children like the one described may be a logical starting point. But determining what constitutes a "medical" service versus an "educational" service appears to be as complex as the medical technology that has necessitated this discussion. Nor is the classic definition of "custodial care" as care required by sick persons who have been discharged to home or a nursing home, workable given the relatively recent acknowledgment of the benefits of home health care over hospitalization for treatment of chronic illness.

These issues cannot go unaddressed or unresolved. Lack of clarity in payment responsibility increases stress in situations already stress filled, and can delay receipt of medical care.

"Just make them pay" may be an appropriate social response, but it may also be fatal—especially when the "them" is private health

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Willow Street Center attending staff includes:

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H. Joel Green, M.D.
William B. Hosfield, M.D.
Ronald Kyllonen, M.D.
Michael Niehans, M.D.
David Opsahl, M.D.
Mary H. Pennington, M.D.
Constantine Rigas, M.D.
Dexter Whittemore, M.D.

Adolescent Psychiatrists

Gerald H. Gammell, M.D.
James S. Guerrero, M.D.
Joanne Hofstrand, M.D.
Michael A. Trangle, M.D.

Child/Adolescent Psychologists

Iris Butler, Ph.D.
Jonathan Hoistad, Ph.D.
Holly Johnson, Ph.D.
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coverage. If the burden for any payer proves too great, we will have created the same problems in access to medical care we faced two decades ago.

Unlike our story's airline passengers, we are not necessarily "lost," but we are being forced to recognize that our resources are limited. Proper apportionment of the financial responsibility for payment of medical services is an extremely difficult task, but it is crucial if access to care is to be maintained.

We became acutely aware of mounting health care costs nationally in the early 1970s, after Medicare became available as another source of payment. Federal and state governments responded with the enactment of health maintenance organization (HMO) enabling legislation, in hopes of encouraging the development of effective health care payment alternatives for employers and individuals.

Since that time, HMOs and other types of prepaid health care organizations have proliferated. And over the years, they in turn have contrived sophisticated methods for transferring the risk of high medical costs to health care providers, and very subtle ways of transferring some of those costs to consumers as well.

In recent years, federal and state governments have turned to these advanced prepaid health systems for assistance in curtailing the medical costs experienced in government health care programs. We have seen this in Minnesota with the Medicaid Demonstration Project and the coverage of Medicare-eligible persons in the HMO Federal TEFRA Risk Program.

Cost containment efforts have not been limited to the more typical health care payers. Minnesota law provides for the payment of certain health services for children from birth through age 18 with special education funding. Recent amendments to the Education of the Handicapped Act have indicated that public agencies other than education, including health, mental health, social service, and vocational rehabilitation agencies, have a role in assuming responsibility for the costs of evaluation and related services provided to handicapped children under mandated special education programs.[1]

Every payer of health care services, private and public, is being exposed to increasing financial liability. And each is attempting to maximize his or her own financial resources. If we accept the premise that society should and will pay for everything medical technology can give, we face head on the questions: How do we pay for it? and Who pays for it?

The 1987 Minnesota Legislature has provided us an opportunity to engage in thoughtful discussion of at least part of the problem with passage of a statute requiring the study of reimbursement by third-party payers of home health care services for the technology dependent.[2] The report, which is to be prepared by the commissioner of health with the advice and assistance of the commissioners of commerce and human services, must include "recommendations for the adoption of definitions of home care, minimum standards of home care services, the costs of providing home care, and resolution of the issue of cost-shifting of home care." That report should stimulate discussion and help resolve the many related issues as well.

---

*Judith Walker is an attorney working in the HMO section of the Minnesota Department of Health.*

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2. 1987 Minn. Laws, Chapter 337, Section 127.

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# Adolescence is Not a Medical Condition

## On Life as Illness and the Misuse of Medical Metaphors

*Michael L. Baizerman, Ph.D. (M.S. in Hyg.), and Judith B. Erickson, Ph.D.*

It is increasingly common to read about adolescence and adolescents in the language of medical metaphors: "They are sick and must be cured." This is a constant theme of editorials written about them, letters to advice columnists from exhausted parents who live with them, and in the literature aimed at professionals who work with them. Adolescence as a period of life is a syndrome, within which are others, e.g., "adolescent borderline syndrome." This particular one is characterized by, among other "symptoms," "immature behavior," "compulsiveness," and "mood swings." This depiction is pure G. Stanley Hall, who in 1904 gave the classic description of "the adolescent." In 5th Century B.C. Athens, adolescents and adolescence were described in similar terms. Western societies have a long history of focusing on differences in behavior using current theological and medical language as metaphors to understand these differences.

**To many adults, kids are exotic, not least because of their dress, hairstyles, language, and friendship rituals.**

Adolescence and adolescents are heard by adults as calling out to be understood. Adults seem driven to make sense of adolescents, for in that process lies control of the unusual and the difficult. To many adults, kids are exotic, not least because of their dress, hairstyles, language, and friendship rituals. They are strange in fascinating and compelling ways; they may be intimate strangers, noisy companions, silent partners, and affectionate buddies, ad *seriatim*, with dazzling rapidity. All that adolescence and adolescents mean to adults and, reciprocally, adults mean to adolescents, is found in the mutual dances of understanding and misunderstanding.

General medicine, like its own adolescent, psychiatry, is a perspective on and a language of difference. Appropriately so with disease, but far less so with social behavior, where its use is metaphoric. The social power of medical language lies in its ability to objectify and give legitimacy to adult efforts to control the often exotic forms of personal development that occur during adolescence. Medical metaphors confound the ordinary, typical, and "normal," the different, the weird, and the odd, with the sick and the crazy. Biological metaphors confuse body illness with personal sickness, and distort development so that it suffocates life. Adolescence as a time of life and as a body of scholarly understanding is merely suggestive of how actual adolescents live their everyday lives. Agricultural metaphors of "raising," "rearing," and "growing" are joined to the biological and developmental in an adult language that is the professional's new *rhetoric of adolescence*. This promises existential understanding but can deliver at best only explanation and at worst, the distortions of ideology.

PHOTO BY CRAIG LASSIG

The *adolescent ideology* is a set of beliefs, facts, and interpretations that prevent the believer from seeing real young people in their uniqueness and possibility. It is a false truth—too often one built from weak correlations done in studies characterized by Neo-positivist rigidity.

Instead, medical practitioners must speak in a different idiom using other metaphors. They must remember the call to their vocation and their witness to hurt and happiness. They must be reminded of the place of stories in their work, and of life as a story, a narrative. They must be asked literally to see the adolescent as a narrative in process and, in so doing, place the ailment and the pain in the context of everyday life and this moment, this paragraph.

It is the craft of medicine that suggests how to understand and be with adolescents. Medical sciences have little to offer on this. Medical language has only a limited place in the everyday lives of kids and

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# Caring for Minnesota's Children

*Luanne Larsen Nyberg*

The health of Minnesota's children reflects their overall well-being. If this is true, then we should be worried. Very worried. Children are suffering more than other Minnesotans (21.7% of all children live below the poverty line, more than any other group), and Minnesota is significantly worse off than it was only a few years ago. In 1979, only six states had a lower percent of their people in poverty than Minnesota. By 1985, 21 states had a lower percent in poverty. The number of Minnesotans living on yearly incomes below the federal poverty line (for example, gross income of under $9,300 for a family of three in 1987) jumped from approximately 301,600 to 528,300 over the same six-year period.

Minnesota now looks much like the rest of the nation, and it's not a pretty picture:

- ► Not only are there millions more poor children, but they are much poorer than in the 1970s. About 40 percent of poor children now live in families with incomes that are less than half the poverty line.
- ► Young families are bearing the brunt of our current economic shifts. From 1973 to 1985, the real median income of families with household heads over 35 years old sank slightly or rose, while the median income for families with household heads under age 35 dropped sharply. These struggling 20- and 30-year-olds are the parents of our young children. By creating a wage problem for the parents, we've given their children poverty, with all its health problems and long-term social costs.
- ► Non-elderly Americans are losing health insurance by the millions. From 1979 to 1984, the number of uninsured Americans rose from 26.2 million to 35 million, with children suffering the most. They account for one-fourth of Americans under age 65, but make up one-third of our nation's uninsured.

**By creating a wage problem for the parents, we've given their children poverty.**

What is going on here? One highly publicized explanation is the explosion in the number of single-parent families. Yet most of the growth in child poverty has occurred among two-parent families whose earnings have fallen. Between 1973 and 1984, the average annual earnings among men aged 20 to 24 (adjusted for inflation) fell 30 percent. Drops also have occurred in the wages of many young women.

This wage disaster is a major cause not only of poverty in two-parent families, but of low marriage rates as well. Throughout American history, teen-agers and young adults have engaged in sex early and conceived babies. They used to get married. But the percent of young men who earn enough to keep a family of three out of poverty fell from 60 percent in 1973 to only 42 percent in 1984. It is not surprising then, that as recently as 1974, two in five young men were married, but by 1984, only one in five was married. Young men who can support a family are still getting married. Regardless of their race or educational attainment, men aged 20 through 24 with earnings above the poverty line for a family of three remain three to four times more likely to marry than young men with below-poverty earnings.

These marriage patterns should come as no surprise. More than two centuries ago, Ben Franklin wrote: "The number of marriages . . . is greater in proportion to the ease and convenience of supporting a family. When families can easily be supported, more persons marry, and earlier in life." The surprise is the rapid deterioration of the lives of young families while the rest of us scramble to maintain our accustomed living standard.

Poverty's effects are all around us: greater hunger and malnutrition, more homelessness, more stress, skyrocketing reports of child abuse and neglect, more despair.

Health indicators also document our neglect:

- ► After making substantial progress in the 1960s and 1970s, improvements in low birthweights, entry into early prenatal care, and infant mortality have slowed to a trickle or stopped completely. Among 20 industrialized countries with comparable reporting systems, the U.S. was sixth in infant mortality in the early 1950s but fell to a tie for last place from 1980 to 1985.
- ► Immunization rates for preschoolers, which were not adequate to begin with nationwide, are down since 1980. The incidence of preventable diseases, like

measles, mumps, and pertussis, has been rising after many years of decline.

These health data reflect declining health insurance rates and reductions in public health services, but they reflect much more: poverty, inadequate nutrition, bad housing, stress, etc.

The Children's Defense Fund and the Minnesota Medical Association worked together successfully during the 1987 Legislative session to provide health care for uninsured low-income families and children. Medical Assistance eligibility was expanded and a new preventive health package for preschoolers will begin in July. We will continue these efforts.

But, while we continue to work to provide access to the health system for all Minnesota children, let's remember that health, according to my Webster's New Collegiate Dictionary, is *"1. the condition of being sound in body, mind or spirit; 2. flourishing condition."* To have healthy children, we must get and keep the economy on track, reinvigorate the ties that bind us across class, race, and generational lines, stop scapegoating the young and the poor, find new solutions to old problems, and tell our leaders where to lead us.

*Luanne Nyberg is director of the Children's Defense Fund in Minnesota.*

PHOTO COURTESY OF CHILDREN'S HOSPITAL OF ST. PAUL

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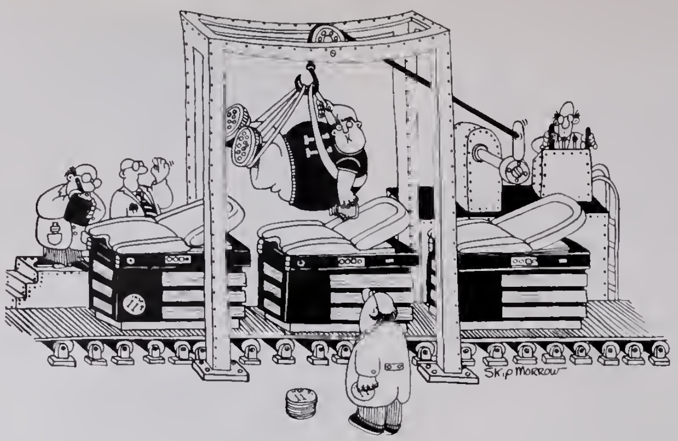
most adults. This is how it should be. Yet, just as the early theological metaphors of sin and willfulness were given shape in the poor houses and asylums, these current medical metaphors have already taken form in the brick and mortar of a vast array of adolescent treatment facilities. The medical model of diagnosis, pathogenicity, and therapy used therein has become the lens used almost universally to view youth as behavior and life as facts and living as troubles, problems, or illness. Being a kid, with its orientation to exploration, adventure, and risk is seen as a "condition," as needing control and prevention. The moral panics provoked by such dilemmas as AIDS, "punk-hood," and chemical use have been extended to redefining the ordinary ups and downs of life as an epidemic of depression with enhanced risk for suicide. Yes, clearly, some adolescents are clinically depressed over a relatively long time and, yes, some of these and other youth do kill themselves. This is not at issue. What is at issue is the pervasive way of looking at a whole time of life as a period of morbidity or pathology, gaining legitimacy for this view, and becoming the experts who offer non-negotiable truths about cause and appropriate intervention.

*Michael Baizerman is a professor in the Center for Youth Development and Research, in Maternal and Child Health, School of Public Health, and in Social Work, at the University of Minnesota.*

*Judith Erickson is an associate professor in the Center for Youth Development and Research at the University of Minnesota.*



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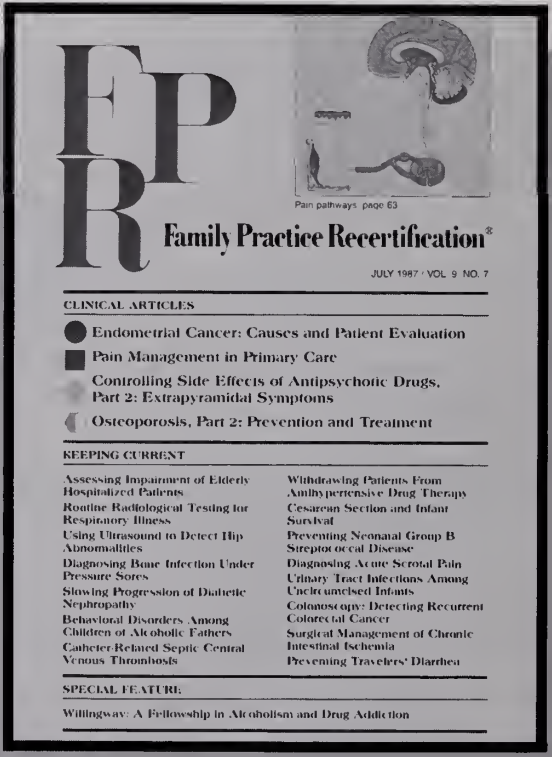

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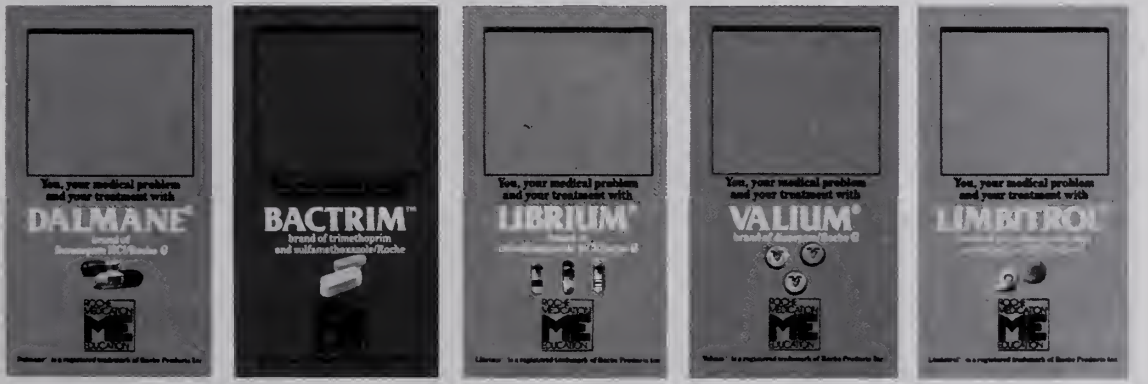
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# Voices of Pediatricians Across Minnesota

## On Life Beyond the Ivory Tower

**Editor's Note:** Recently, the University of Minnesota Pediatrics Department asked me to give a talk: "Beyond the Ivory Tower." I accepted. But suddenly it struck me, I know little about pediatricians' lives beyond academe. So, I decided to conduct phone interviews with pediatricians. To each I posed this question: "If you were in my shoes, what would you tell pediatric residents about your practice—about life beyond the ivory tower?"

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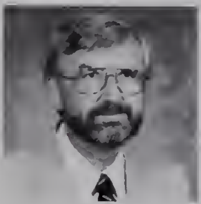
**Charles E. Pitzele, M.D.**
*16 years in practice, West St. Paul*

"First, I would tell residents to live a balanced life between their practices and their families. Pediatricians are physicians, but they are also people; they are spouses and parents and community leaders. For the first time in their lives, they must prioritize how they want to divide themselves. Second, they need to recognize that they're going to have to become business, marketing, and communications experts. Business considerations are a shock and perhaps a disillusionment to many young pediatricians. If I have any advice for people at the medical school level, it would be to diversify their knowledge outside of medicine."

**Lowell W. Barr, M.D.**
*25 years in practice, Albert Lea Regional Group, Albert Lea*



"I would tell them the relatively low income for pediatricians is a major problem, at least in trying to recruit new pediatricians into the field. Compared with other specialties, we're on the low end of the pay scale. We're a cognitive practice, and we have to get remunerated according to our time with patients. We don't have any special gimmicks or procedures we can use to compensate ourselves. In Albert Lea, two of us are in pediatrics. We work long hours and often cover the emergency room to supplement our incomes. Fortunately, I'm in a fairly large group practice. We have about 30 to 35 in our group, and the surgical practices supplement us in a way."

**Elizabeth B. Jerome, M.D.**
*38 years in practice, Teenage Medical Service, Minneapolis Children's Medical Center, Minneapolis*

"I would tell them that it's a whole new world. It's alive and wild and exciting. A great deal of their learning will be listening to patients rather than trying to figure out rare diseases that they've learned about. They have to learn how to get along with personalities, with unhappy people, with others who are so happy they don't even listen to caution. Practicing pediatrics is like being a beachcomber and finding ever so many wonderful things, and you don't have to go very far to do it. The best part about it is that you get to know other people and you get the opportunity to help people have more fulfilled lives and watch the children grow. It's much more exciting on the front-line than it is in the tower."

**Susan K. Mahle, M.D.**
*9 years in practice, Oakdale Medical Group, Minneapolis; President, Minnesota Academy of Pediatrics*

"As you well know, the business of medicine inundates us. I would like to say to residents that pediatrics will continue to be joy and fun, but I'm so overwhelmed with business problems, I can't say it with a straight face. Third-party payers hassle us about everything we do, how we do it, who we can refer, and who we can't. In pediatrics, you deal with the family and family problems. You come to realize these kids need total care. They need social services, psych services, and the medical services. With many of the prepaid plans, it gets tough to coordinate care in a fragmented marketplace.

I think residents need more exposure to healthy kids in the real world, rather than critically ill kids in the academic world. They must learn to deal with social problems, family problems, and the more mundane payment problems. Also, somewhere they must pick up the savvy and sophistication to understand what's going on in their organization, whether it be a group practice, a hospital, an HMO, or community clinic."

**Mark A. Nammacher, M.D.**
*16 years in practice, Group Health, Brooklyn Center*

"It's different. One thing residents can anticipate is rapid change in certain areas and slow change in others. There are rapid changes in technology that in the next three to five years will affect primary care and ambulatory patient care. I'm referring to computerized patient care information that you'll have at your fingertips. That will give us access to something that we've always talked about but never really had: monitoring diseases or monitoring oneself. The pressure on doctors is to show what we are doing, why we are doing it, and how much effect it has. But some things don't change: how you interrelate with patients, the laying on of hands, and the basic aspects of health care and medicine."

**Jerome E. Kwabo, M.D.**
*19 years in practice, Duluth Clinic, Duluth*

"I would start by giving them a feel for a routine day. My day starts with meetings at 7 o'clock or by answering lots of phone calls. I've probably had 20 phone calls this morning. After I've made rounds at the hospitals, I see patients during the day. I get a break for lunch and answer more phone calls. I see patients all afternoon. I take calls different times during the week at night and on alternate weekends. I'm in the trenches seeing a variety of things, some trivial, some routine, some mundane, but most fulfilling. I may see a kid with a pain in the knee, a kid with a rash. The other day I saw a 14-year-old girl who may have lupus. I just saw a little girl this morning with Charcot-Marie-Tooth. In the trenches it's busy, but people are appreciative. I have two kids in the hospital with terminal neuroblastoma, and we're working on chronic pain relief for those kids. You develop bonds with these patients and their families. Life beyond the ivory tower is full of common problems, rare diseases, and binding human relationships."

**Robert V. Hodapp, M.D.**
*35 years in practice, Willmar Clinic, Willmar*

"I would say I've enjoyed my position in the practice of medicine. We are able to manage most pediatric problems that come our way, but we freely use the expertise of the doctors at the University. Our referrals have been almost entirely to the University. In the case of pediatrics, we look at the University as a friendly and cooperative backup. Perhaps I'm circumventing your question, but I enjoy where I live, the practice that I have, and the practice arrangement here in our center. I would tell residents to be prepared for dealing with a lot of routine problems in children—respiratory ear problems and nonserious medical problems. We have a referral center here, but we don't see the concentration of exotic and difficult problems one sees during medical training."

**Edmund C. Burke, M.D.**
*retired pediatrician, Mayo Clinic, currently newspaper columnist, Rochester*

"In the course of my career I've seen many socio-economic changes, but cultural changes are more incredible. These include things that affect the welfare of children and youth, the risk-taking behavior of young adults, the eating disorders of youth, the suicides, depressions, drug use and abuse, and alcoholism. Today's children are living the legacy of an era of permissiveness. In the '60s and the '70s, the attitude among young people was: If it feels OK, it's all right. This damaged the parenting attitudes of many of today's parents. But we are getting back.

The thrill of pediatrics is still there for me in dealing with residents and medical students. Those of us who still are thrilled with practicing must convey this enthusiasm to young people. Medicine is having difficulties attracting young people to careers in medicine. Partly this is because doctors get turned off by problems that take their focus away from practice. These include economic problems, organizational problems, reimbursement problems. But these problems shouldn't deter someone who looks on pediatrics and medicine as an opportunity to deal with people in times of their distress. Medicine remains a very high calling. In pediatrics, we can contribute by salvaging the next generation by strengthening parenting skills. That's the challenge of today."

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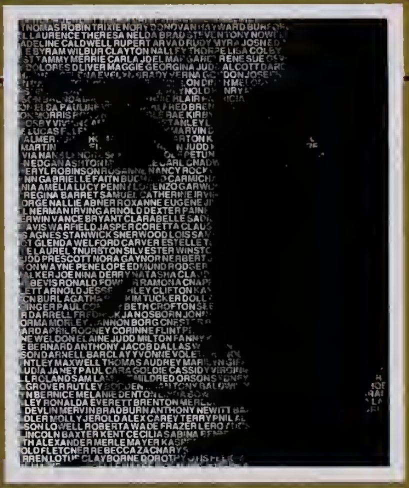

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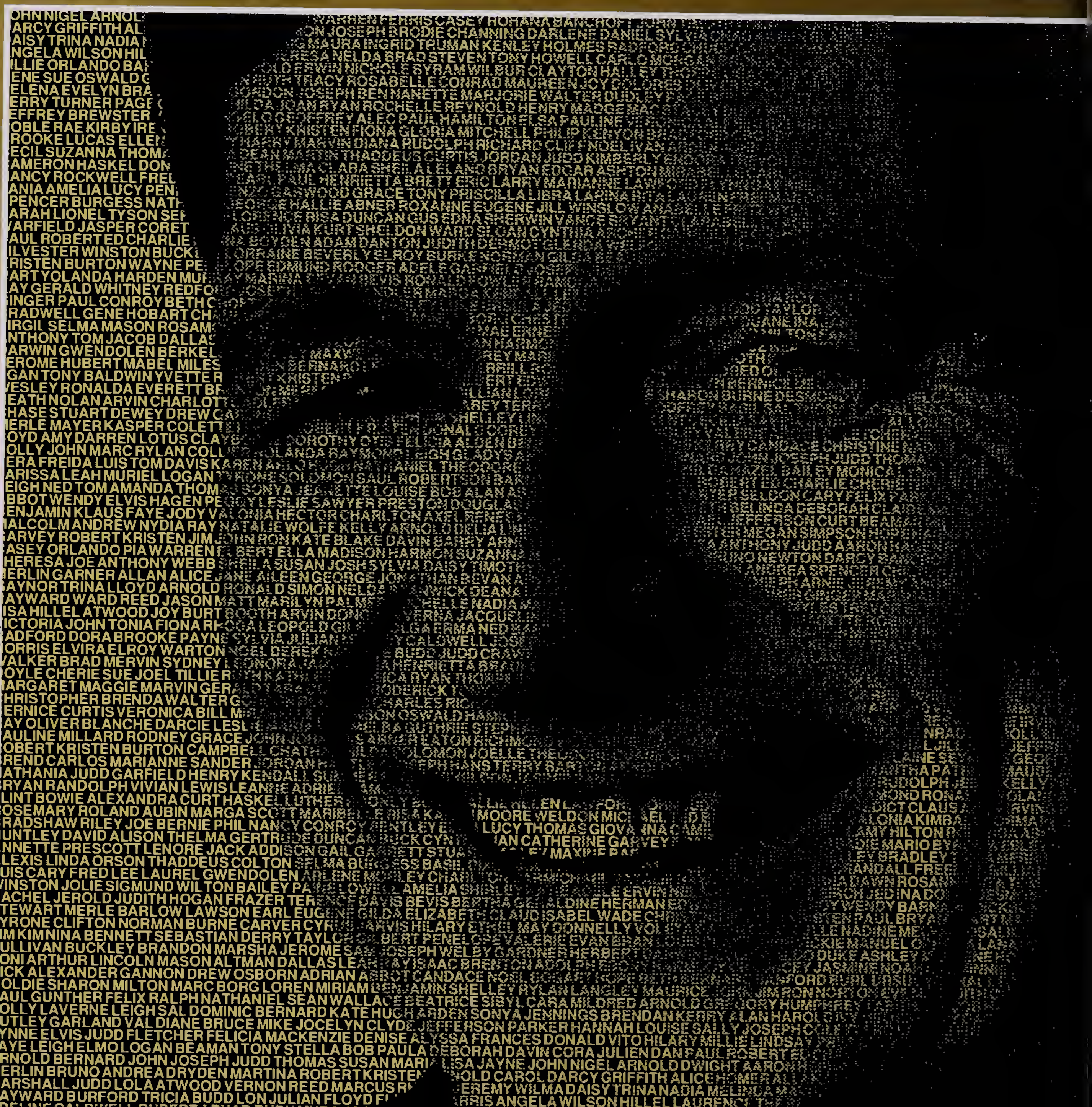

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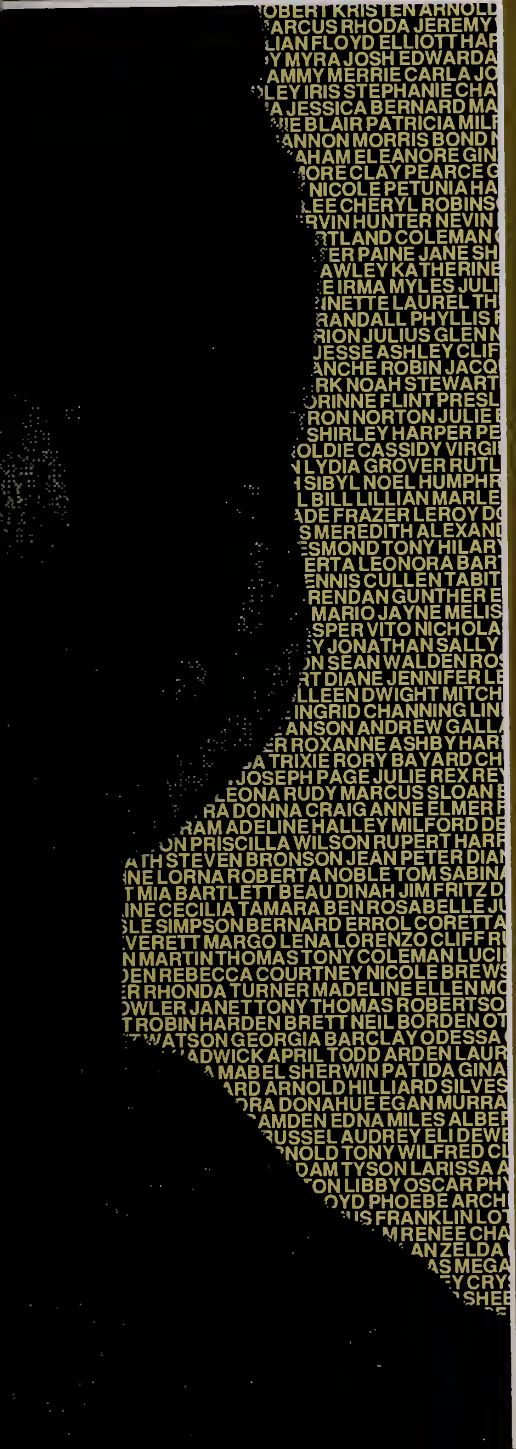

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INDERAL LA Capsules (60, 80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL Tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg-for-mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure, and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

**INDICATIONS AND USAGE. Hypertension:** INDERAL LA is indicated in the management of hypertension; it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

**Angina Pectoris Due to Coronary Atherosclerosis:** INDERAL LA is indicated for the long-term management of patients with angina pectoris.

**Migraine:** INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

**Hypertrophic Subaortic Stenosis:** INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

**CONTRAINDICATIONS.** INDERAL is contraindicated in 1) cardiogenic shock; 2) sinus bradycardia and greater than first-degree block; 3) bronchial asthma; 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

**WARNINGS.** CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

> IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following *abrupt* discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned, the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

**Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema)**—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, eg, dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA: Beta blockers should be used with caution in diabetic patients if a beta-blocking agent is required. Beta blockers may mask tachycardia occurring with hypoglycemia, but other manifestations such as dizziness and sweating may not be significantly affected. Following insulin-induced hypoglycemia, propranolol may cause a delay in the recovery of blood glucose to normal levels.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol may change thyroid function tests, increasing $T_4$ and reverse $T_3$, and decreasing $T_3$.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case this resulted after an initial dose of 5 mg propranolol.

**PRECAUTIONS.** GENERAL: Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

CLINICAL LABORATORY TESTS: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL (propranolol HCl) is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Caution should be exercised when patients receiving a beta blocker are administered a calcium-channel-blocking drug, especially intravenous verapamil, for both agents may depress myocardial contractility or atrioventricular conduction. On rare occasions, the concomitant intravenous use of a beta blocker and verapamil has resulted in serious adverse reactions, especially in patients with severe cardiomyopathy, congestive heart failure, or recent myocardial infarction.

*Aluminum hydroxide gel* greatly reduces intestinal absorption of propranolol.

*Ethanol* slows the rate of absorption of propranolol.

*Phenytoin, phenobarbitone*, and *rifampin* accelerate propranolol clearance.

*Chlorpromazine*, when used concomitantly with propranolol, results in increased plasma levels of both drugs.

*Antipyrine* and *lidocaine* have reduced clearance when used concomitantly with propranolol.

*Thyroxine* may result in a lower than expected $T_3$ concentration when used concomitantly with propranolol.

*Cimetidine* decreases the hepatic metabolism of propranolol, delaying elimination and increasing blood levels.

*Theophylline* clearance is reduced when used concomitantly with propranolol.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

PREGNANCY: Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

NURSING MOTHERS: INDERAL is excreted in human milk. Caution should be exercised when INDERAL is administered to a nursing woman.

PEDIATRIC USE: Safety and effectiveness in children have not been established.

**ADVERSE REACTIONS.** Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

*Cardiovascular:* Bradycardia; congestive heart failure; intensification of AV block; hypotension; paresthesia of hands; thrombocytopenic purpura; arterial insufficiency, usually of the Raynaud type.

*Central Nervous System:* Light-headedness; mental depression manifested by insomnia, lassitude, weakness, fatigue; reversible mental depression progressing to catatonia; visual disturbances; hallucinations; vivid dreams; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics. For immediate formulations, fatigue, lethargy, and vivid dreams appear dose related.

*Gastrointestinal:* Nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

*Allergic:* Pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

*Respiratory:* Bronchospasm.

*Hematologic:* Agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

*Auto-Immune:* In extremely rare instances, systemic lupus erythematosus has been reported.

*Miscellaneous:* Alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

**DOSAGE AND ADMINISTRATION.** INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily. If patients are switched from INDERAL Tablets to INDERAL LA Capsules, care should be taken to assure that the desired therapeutic effect is maintained. INDERAL LA should not be considered a simple mg-for-mg substitute for INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitration may be necessary, especially to maintain effectiveness at the end of the 24-hour dosing interval.

HYPERTENSION—*Dosage must be individualized.* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic. The dosage may be increased to 120 mg once daily or higher until adequate blood pressure control is achieved. The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage of 640 mg may be required. The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks.

ANGINA PECTORIS—*Dosage must be individualized.* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three- to seven-day intervals until optimal response is obtained. Although individual patients may respond at any dosage level, the average optimal dosage appears to be 160 mg once daily. In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS).

MIGRAINE—*Dosage must be individualized.* The initial oral dose is 80 mg INDERAL LA once daily. The usual effective dose range is 160-240 mg once daily. The dosage may be increased gradually to achieve optimal migraine prophylaxis. If a satisfactory response is not obtained within four to six weeks after reaching the maximal dose, INDERAL LA therapy should be discontinued. It may be advisable to withdraw the drug gradually over a period of several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily.

PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use.

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**Reference:**

1. Data on file, Ayerst Laboratories.

D7295/188

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# Summary
# The Minnesota Adolescent Health Survey
## Implications for Physicians

*Robert Wm. Blum, M.D., M.P.H., Ph.D.; Lois Geer; Laura Hutton; Carolyn McKay, M.D., M.P.H.; Michael D. Resnick, Ph.D.; Kim Rosenwinkel; and Yong Song (listed alphabetically)*

Adolescence is the only age group that has not shown improved health status in the United States over the last 30 years.[1] Decreases in death from communicable disease in the last generation have been offset by increases in violent deaths (accidents, homicides, and suicides), which together account for over 77% of fatalities among 15- to 24-year-olds, with two-thirds of these stemming from motor vehicle accidents.[1] Suicide rates have quadrupled over the same time period,[1] with some evidence of a small decrease in national rates for black males and females and white females age 15-19 and 20-24, but no corresponding decline among white males.[2]

In comparison with other age groups, adolescents are disproportionately represented in health problems linked to violence, chemical use, and pregnancy.[3] The decline of acute communicable diseases has been accompanied by a rise in social morbidities, constituting the single greatest challenge to practitioners in the field of adolescent medicine and health.[4]

In addition to the overt morbidities and mortalities of youths, both adolescents and physicians who treat them have described the growing stressfulness of adolescent daily life.[5] Research on the biopsychosocial problems of youths underscores the salience of social etiologies rooted in family, school, and peer relationships.[6-8] Similarly, investigations of resilience or invulnerability among adolescents also emphasize environmental factors that promote health and adaptability in the face of stress and multiple risk factors.[4,9-11] The changing nature of adolescent health and medical problems requires an understanding of how the dominant environments of the adolescent (family, school, and peers) interact to promote health or distress. As noted by Blum in his recent review of contemporary threats to adolescent health, the successful physician must move beyond the boundaries of traditional medical practice to adopt a larger view of social concerns and conditions if the health status of adolescents as a group is to be improved.[1] Effective health promotion and the reduction of disease and distress require coordinated involvement between practitioners and other community institutions and resources.[12] A fundamental requisite for a well-planned and reasoned community response to adolescent health issues is an adequate information base to inform key decision makers and practitioners about the nature of threats to adolescent well-being.[13] The Minnesota Adolescent Health Database Project was developed for this purpose.

A critical goal of the Adolescent Health Database Project was the inclusion of youth-generated information on health status, problems, and concerns. To accomplish this, a survey questionnaire was developed to provide information users and decision makers with valid information on adolescents' views of health issues affecting them. The Adolescent Health Survey (AHS), administered to over 36,000 public school youths during the 1986-87 school year, was developed over a two-year period. Its purpose is to provide meaningful data to individuals who are working directly with young people or who are involved in the planning of services and other programs affecting this population. During the development of the survey, input was solicited from numerous individuals throughout Minnesota and the U.S. The final topic areas represent issues that were raised by these professionals—issues identified as the most significant areas of concern for adolescent health and well-being.

Whenever possible, existing measures for each area were included in the AHS to ensure their reliability and validity. To further strengthen the validity of the questionnaire, during the summers of 1985 and 1986, preliminary versions of the AHS were administered to over 1,500 Minnesota youths in grades 7 through 12. All items in the survey were subjected to rigorous analysis to ensure their appropriateness for inclusion in the final version of the AHS. Additionally, since the survey was intended to reach a wide range of students, the reading level was set at fifth grade whenever possible.

The Adolescent Health Survey requires approximately one class period to complete. The forms are completely anonymous and confidential. No names are written on the form nor are there ID numbers. It is therefore not possible to link a student with his or her questionnaire.

After the surveys were completed and returned to the Adolescent Health Program, they were reviewed for completeness, counted, collated, and sent out for data entry. Upon receipt of the computerized raw data tape, we subjected the data to numerous edits and validity checks to ensure the accuracy of responses. For instance, youths who indicated implausible drug use were eliminated from the survey. Skip patterns in the questions were also rechecked to make certain that a response was based only on the question leading to it. In light of the extensive data cleaning processes and cross validations used, the AHS Project staff is confident that the data are accurate.

Of course, the possibility for random responses still exists. However, our previous research experience indicates that young people provide truthful responses when they are asked questions directly in an atmosphere of confidentiality. Additionally, in analysis of the data, the consistency of trends across regions, school district size, and other demographic characteristics further substantiates the accuracy of the AHS information.

The data presented in this article highlight key issues facing Minnesota youth. The data can be generalized to public school youths in grades 7 through 12. Whenever possible, youths in special education and alternative schools were also included in the survey.

## Results

The period of adolescence, from ages 12 to 19, is usually a time of good physicial health, and the data from the young people participating in the survey bear this out. Nearly 90% of males and females rate themselves in good to excellent health, and approximately 91% indicate having a usual source of health care. Furthermore, substantial numbers of Minnesota adolescents have had a regular checkup in the last two years, had their eyes examined, and see a dentist on a regular basis.

Adolescence is also a time when social, psychological, and developmental issues are paramount. The central focus of this time of life from a developmental standpoint is the emergence of a coherent sense of self. Thus, the world of peers becomes increasingly important, as can be seen in Table 1. Young people, particularly young women, are concerned about this social self and acceptance status.

The world of school is also important. Nearly 51% of adolescents are concerned about how they are doing in school. While overall, only 28% are worried about getting a job when they are older, this figure approaches 37% for high school seniors.

**Alcohol and Drug Use:** With strong concern about acceptance and the centrality of school in a young person's life, attention must be paid to how youths perceive their everyday environment. One series of questions asked students to indicate the extent to which drinking, drug use, vandalism, fighting, and stealing occur at their school. This refers to the larger school culture both on and off campus. Over half of males and females perceive students drinking quite a bit or very much, while approximately one-fifth report frequent use of drugs in their schools (Table 2). Perceptions of these behaviors increase by grade.

Alcohol and drug use are of significant concern not only to educators and parents but also to the medical community. While use of alcohol during adolescence is a common experience and part of the risk taking associated with that period, the consequences can prove fatal when coupled with a personal sense of invulnerability and the operation of motor vehicles.

Overall, approximately one-third of adolescents in grades 7 through 12 report drinking beer or wine at least monthly. While the proportion of seventh-graders is low, 8%, by twelfth grade it reaches 52%.

Patterns of consumption and related behavior are of particular concern. For young people who do drink, binge drinking approaches the norm. Over half of drinking males report typically drinking four or more drinks at one time, with 35% reporting they usually consume six or more at a time. This behavior, coupled with driving, can prove lethal. Over one-quarter of youths who drink also combine it with driving. This figure approaches 40% for senior high males. Drinking to intoxication is also common. Of youths who do drink, approximately 70% were drunk within the last year. And, of that group, about one-third were drunk within the week prior to the survey.

**TABLE 1**
Worries and concerns of adolescents

| | Males* (18,463) | Females* (17,820) |
|---|---|---|
| **I worry about . . .** | | |
| How my friends treat me | 22.5 | 38.3 |
| Won't get a job when older | 26.8 | 30.2 |
| Being liked by others | 30.9 | 45.9 |
| Lose my best friend | 32.1 | 43.8 |
| Dying soon | 12.7 | 16.1 |
| A nuclear bomb being dropped | 14.3 | 15.7 |
| Drinking & drugs | 14.9 | 22.4 |
| One of my parents might die | 32.9 | 40.0 |
| Body developing normally | 18.3 | 18.4 |
| My appearance | 40.4 | 65.2 |
| Doing well in school | 44.3 | 57.3 |

*percentage who worry quite a bit or very much

**TABLE 2**
Perceptions of school environment

| | Males (18,463) | Females (17,820) |
|---|---|---|
| **How much do these things go on at your school:*** | | |
| Students using drugs | 16.9% | 20.4% |
| Students destroying things | 16.5% | 16.5% |
| Students drinking | 50.5% | 55.6% |
| Students fighting | 22.4% | 23.1% |
| Students stealing | 20.8% | 20.1% |

*those responding quite a bit or very much

Overall, routine drug use is low, with marijuana being the most common drug used on a regular basis. Surprisingly, the use of both crack and cocaine was very low. In total, nearly three-quarters of the youths participating in the survey had not used any drugs (excluding alcohol), although this proportion declined as grade increased.

**Sexual Activity:** No other areas in the survey raised as much interest as those items related to sexual activity. About one-third of Minnesota youths report having had sexual intercourse, and for those who had, the average age for first intercourse was 13.9 years for males and 14.6 for females. In seventh grade, about 14% of males and 6% of females reported having intercourse, increasing to 64% of males and females by the twelfth grade.

**TABLE 3**
Students' alcohol and drug use

| | Males (18,463) | Females (17,820) |
|---|---|---|
| Drink beer/wine* | 33.0% | 29.9% |
| Drink hard liquor* | 21.1% | 19.2% |
| Smoke marijuana* | 7.9% | 6.5% |
| Use amphetamines* | 2.1% | 2.9% |
| Use cocaine* | 1.4% | 1.0% |
| Use crack* | 0.4% | 0.2% |

*reporting at least monthly use

**TABLE 4**
Suicidal thoughts and behaviors

| | Males (18,463) | Females (17,820) |
|---|---|---|
| **In the past month:** | | |
| I have thoughts about killing myself, but would not do so | 15.0% | 26.4% |
| I would like to kill myself | 1.8% | 3.1% |
| I would kill myself if I had the chance | 2.2% | 1.6% |
| Attempted suicide in past year | 2.7% | 6.1% |
| Attempted suicide more than a year ago | 4.1% | 8.5% |

While the percentage of adolescents who report ever using birth control is approximately 80%, about one-fifth of these report using withdrawal as their typical method.

**Abuse:** Physical and sexual abuse can have a major and long-lasting impact on an individual's well-being. About 13% of females and nearly 5% of males report having been physically abused; 14% of females and 2% of males said they had been sexually abused. This would mean that for the AHS sample alone nearly 310 males and 3,000 females had experienced sexual abuse. It must also be kept in mind that these percentages can be applied to state totals for public secondary students. Of particular concern is that males are less likely to discuss the abuse experience with anyone, a substantial psychological burden for an adolescent to bear in silence.

Despite the prevalence of abuse, most young people perceive adults, particularly parents, as caring. Almost 90% of young people indicate they feel their parents care about them quite a bit or very much. Further, the majority of adolescents report a home life that is positive.

**Suicide:** Recently, the Minnesota Department of Health released figures indicating that suicide is now the second leading cause of death for Minnesota adolescents ages 15-19.[14] Adolescent suicide is the extreme response to the stresses and strains faced by young people. In the last year, articles have appeared in the metro area press about teen suicides relating to the impact of eating disorders, sexual harassment, and failure to make good grades. While most young people do not either attempt suicide or kill themselves, large numbers are potentially at risk.

About one-fifth to one-quarter of youths indicated feeling extreme stresses and strains, dissatisfaction with life, and being depressed during the month prior to the survey. These responses are not typical of the everyday ups and downs common to young people but are the extreme responses.

In response to specific questions about suicide attempts and ideation, over one-quarter of females and nearly 15% of males report some form of global suicide ideation in the month prior to the survey. Nearly 15% of females and 7% of males report ever having attempted suicide (Table 4). The greater proportion of female attempters reflects the typical pattern of adolescent suicidal behavior and the gender differences in means used by young people to kill themselves. In the data released by the Minnesota Department of Health, this pattern is very apparent.[14] Of the 77 suicides in 1986, 56 were males. The primary methods chosen by males — shotguns and hanging — do not allow for repeated attempts. What is not known from our survey data is the gravity of the reported attempts. Most of these attempts could well be suicide gesturing. Nonetheless, it is critical to keep in mind that the attempt, gesture or not, was perceived by the adolescent as an attempt.

## Conclusion

The Minnesota Adolescent Health Database Project has demonstrated the feasibility of establishing a timely and useful information base on adolescent health on state, regional, and community levels. The information derived from it has several implications for physicians and other service providers. First, practitioner training must include substantive exposure to the psychosocial issues of youths. Studies in Minnesota, the Upper Midwest, and nationally have documented the inadequacy of physician training in adolescent medicine and health, particularly in such areas as chemical use, sexual behavior, sexual orientation, stress, depression and suicide, and peer and family relationships.[5,15,16] Second, physicians will increasingly need to interact with and use community-based agencies, including social services, educational and vocational training, religious organizations, and youth-serving agencies.

Without necessarily playing a formal gatekeeper role, physicians may increasingly serve as the pivotal contact and referral point for adolescents in need of other community resources—both preventive and interventional. This requires an accurate knowledge of community resources as well as skills in referral and follow-up with both physician and non-physician service sources. Finally, in light of their stature and recognition in their communities, physicians need to play a greater advocacy role for youths on the county and state legislative levels.

The social etiologies of adolescent morbidity and mortality require this kind of community health perspective and involvement, and the challenge to practitioners in the coming decade will include their ability to assume such an expanded role while gaining and maintaining a high standard of clinical excellence in the care of adolescents.

## Acknowledgments

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**Adolescent Survey** *references to page 149*

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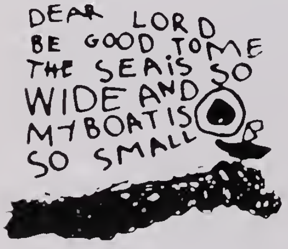

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# Teen-age Sexuality Education in Rural Minnesota

*Barbara P. Yawn, M.D., and Roy A. Yawn, M.D.*

**Students at a rural Minnesota high school with a family life and human sexuality program were surveyed about their sources of contraceptive and sexual information. About 50% listed the school as their primary source of contraceptive information, and 76% thought that they had received sufficient information. However, there were large gaps in basic contraceptive knowledge. Friends ranked first as the actual source of sexual information, but physicians and parents ranked higher in a list of preferred sources. About 57% favored the idea of special teen health clinics.**

Teen pregnancy and its prevention remain topics of interest to everyone. A study has been published showing that education in human sexuality, family life, and contraception can delay sexual activity among teenagers and decrease the rates of teen pregnancy and abortion.[1] As the idea of preventive education is becoming more widely accepted, the Minnesota Department of Education and the Minnesota Legislature are recommending human sexuality education and school-based health clinics. We think that the attitudes and opinions of the teen-agers should be taken into consideration when such legislation is being considered.

Previous studies involving urban and rural students in the seventh and eighth grades indicated that the students wanted sexual information from their parents more than three-quarters of the time.[2] Only 21% wanted information from physicians or nurses; and 13% wanted information from school persons. However, as students get older, questions and answers become more complex. We wanted to find out if these same attitudes were present in older students in a rural high school.

The purpose of this study was threefold: first, to determine where rural high school students obtain information on sexuality and contraception; second, what these students would like the role of the physician to be in providing such information; and third, to determine their desired sources for contraceptive health care.

## Methods

The data discussed here were gathered in a survey of 480 students in a rural Minnesota high school conducted in May 1986. Some of the results from this survey regarding sexual activity have been published.[3] In addition to questions regarding sexual activity, the students were asked whether they thought they were receiving enough sexuality education, and who they thought should teach them. Questions were included to compare where they got their sexual and contraceptive information with where they preferred to get such information. The students were asked where they would like to get contraceptives. Questions were asked about contraceptive risks to test their knowledge level.

We believe that the human sexuality curriculum in the school where the survey was conducted is above average. Other schools in our area have no such curriculum at all. The program includes: 1) classroom discussion and movies on puberty and menstruation shown to fifth- and sixth-graders; 2) a two-week eighth-grade health course on human reproduction in which contraceptives are mentioned; and 3) a required four-week, one hour daily, tenth-grade course on reproduction, dating, sexually transmitted diseases, and contraception. (This curriculum is currently being updated.) We estimate that 60 to 90 minutes over the four weeks in tenth grade dealt directly with contraceptives. Students are expected to treat this as any other course, and a final exam is given at the end of the course. More than 90% of the students surveyed had completed this course before being surveyed. The survey questions on contraceptive risks were based on information presented in the tenth-grade course by one of the authors.

## Results

Table 1 shows the results of a question regarding amounts and types of sexuality information given to the students in the schools. About 76% thought that they received sufficient information; 12% said they wanted more. About 25% wanted more information about contraceptives, and 22% wanted more about understanding the human body. Almost 31% wanted more information about decision making and setting limits, and 38% wanted to know more about parenting.

The sources of contraceptive information that the students now use are listed in Table 2. Parents are used as a source of contraceptive information 12% of the time; churchs, 4%; friends, 31%; and schools, 51%. Physicians were

**TABLE 1**
Information desired about family life and sexuality among 480 high school students.

| | More | Less | OK now |
|---|---|---|---|
| Amount of information | 12.2% | 4.1% | 75.6% |
| About contraceptives | 24.7 | 4.3 | 62.2 |
| About dating/love | 30.0 | 4.5 | 57.2 |
| About pregnancy | 33.7 | 6.4 | 52.0 |
| Sources of contraceptives | 27.5 | 9.5 | 55.0 |
| About parenting | 38.3 | 7.5 | 45.8 |
| Understanding your body | 22.0 | 5.6 | 64.5 |
| Decision making/setting limits | 30.6 | 5.8 | 55.4 |

The percentage who gave no response are not listed in the table.

**TABLE 2**
Sources of contraceptive and sexual information among 480 high school students. Multiple answers were allowed.

| | Contraceptive information | Sexual information sources actual | Sexual information sources preferred |
|---|---|---|---|
| No one | 20.0% | 22.0% | 14.1% |
| School | 50.6 | 13.7 | 15.6 |
| Doctors | 15.4 | 17.4 | 27.9 |
| Books/magazines | 22.2 | 13.3 | 11.2 |
| Friends | 30.8 | 40.0 | 20.8 |
| Parents | 15.0 | 29.1 | 30.4 |
| Family planning | 11.6 | 5.8 | 11.2 |
| Church | 4.1 | 4.1 | 6.2 |

**TABLE 4**
Perceptions of contraceptive risks among 480 high school students (percentage of "yes" answers).

| | Pill | Condom | Diaphragm | Rhythm | Don't know |
|---|---|---|---|---|---|
| Cancer | 19.5% | 0.8% | 10.6% | 1.6% | 47.7% |
| High blood pressure | 28.3 | 0.6 | 1.8 | 3.5 | 45.8 |
| Blood clots | 24.7 | 1.8 | 8.3 | 2.5 | 43.9 |
| Future problems getting pregnant | 30.4 | 3.9 | 11.6 | 6.0 | 36.4 |
| Infections | 9.3 | 10.4 | 29.1 | 6.4 | 37.7 |
| Pregnancy | 23.9 | 27.9 | 24.1 | 36.8 | 34.3 |

**TABLE 5**
Comparison of contraceptive risks perceived by sexually active (N = 173, group A) and non-sexually active (N = 307, group B) high school students.

| | Pill | | Condom | | Don't know | |
|---|---|---|---|---|---|---|
| | A | B | A | B | A | B |
| Cancer | 23.1% | 17.5% | 0.5% | 0.9% | 39.8% | 52.1% |
| Future problems getting pregnant | 30.6 | 30.2 | 3.4 | 4.2 | 32.3 | 38.7 |
| Pregnancy | 18.4 | 27.0 | 20.8 | 31.9 | 28.9 | 37.4 |

**TABLE 3**
Preferred sources of contraceptives among 480 high school students if all were available. Multiple answers were allowed.

| | |
|---|---|
| Special teen-age clinic | 56.9% |
| Family planning agency | 23.8 |
| Physicians' offices | 19.6 |
| Drugstore | 10.0 |
| Miscellaneous | 1.0 |
| No answer | 11.3 |

listed as a resource about 15% of the time, about half as frequently as the students' peers.

The second part of Table 2 compares desired sources of sexual information with actual sources. About 22% of the students said that they had no source of such information, while 14% said they did not wish to have a source of information. About 40% said that their friends gave them information, but only 21% actually wanted to use their friends as reference sources. Parents were being asked about as frequently as the students wanted, approximately 30% of the time. The family planning agency was seen as a desirable source by 11.2%, but only 5.8% of the students said they actually used this source. Only 17% used physicians for sexual information, but 28% said that they would like to use them. Although schools were ranked as the first source of contraceptive information, fewer than one-sixth of the students said that schools were the actual or preferred source of information.

Table 3 shows the students' responses to a question about where they would like to get contraceptive prescriptions and devices. Although no special teenage clinics exist in our community, 56.9% said that they would like to have this available. The family planning agency, which is staffed by community physicians, was selected 23.8% of the time, and physicians' offices were picked 19.6% of the time. Drugstores were listed by 10% of the students.

Table 4 lists the students' knowledge about risks of various contraceptive methods. This is an area where 50% said that they used the school as their primary source of knowledge, and about 76% said that what they received was adequate. Yet over 30% believed that use of oral contraceptives would result in a decrease in future fertility. From 24% to 37% knew that any method of contraception carries some risk of pregnancy. The greatest number of answers was in the "don't know" category.

The accuracy of knowledge about contraceptive risks was not much better when we compared the answers of those who were sexually active (36%) with the answers of those who were not (64%). Table 5 shows that sexually active students felt that the risk of unintended pregnancy was lower with each method than the abstinent group did.

## Discussion

Unlike the study of seventh- and eighth-graders by the Search Institute,[2] our rural tenth-, eleventh-, and twelfth-graders desired parental advice on sexual matters only about one-third of the time and advice on contraceptive questions about one-sixth of the time. Our high school students did not consider parents the actual or preferred source of information on human sexuality. By late adolescence most teen-agers will have acquired a parent-influenced value system that will help determine their sexual activity. Many of them have chosen to be sexually active, as shown in our previous paper.[3] However, the students we surveyed lack basic contraceptive knowledge; but the majority do not believe that they need additional education. It is not surprising that factual information is lacking, since the most frequent source of information is the peer group.

Although many students thought that they had received sufficient information on sexual and contraceptive topics, a substantial number wanted more information about contraceptives, pregnancy, dating, love, parenting, decision making, and setting limits. Fifty percent of students said that the school is now their primary source of contraceptive information. The lack of accurate contraceptive knowledge among our students demands our continued educational efforts. The students appear receptive to school-based contraceptive and sexuality education, but they also would like input from physicians, parents, and family planning agencies. We think a school-based human sexuality program extending over several grades is a good way to teach these essential life skills. Schools should take the initiative in setting up such programs and should involve the other community resources that the students have requested.

Although they are controversial in many rural areas, special teen clinics, whether school-based or free-standing, deserve close evaluation and consideration. Our study asked only about sources of contraceptive and sexual information, but other studies show that teens would use these clinics for a wide variety of personal and health problems.[4,5]

Primary care physicians should take the lead in making special arrangements so that teen-agers will feel comfortable in seeking contraceptive and sexual information. Only 15% of our students now choose to go to the regular physician office setting for contraceptive information, despite reassurances of confidentiality. In rural areas, primary care physicians will be essential to the success of human sexuality programs, whether they are conducted in schools, physician offices, family planning agencies, or teen clinics.

## Acknowledgment

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*Barbara Yawn, a family practitioner in Worthington, Minnesota, is in private practice. Roy Yawn practices internal medicine in Worthington.*

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**Pregnancy:** Pregnancy Category B. Teratogenicity studies have been performed in mice, rats, and rabbits at doses up to 50 times the human dose and have revealed no evidence of harm to the fetus due to sucralfate. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

**Nursing Mothers:** It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when sucralfate is administered to a nursing woman.

**Pediatric Use:** Safety and effectiveness in children have not been established.

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**DOSAGE AND ADMINISTRATION**
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**References:**
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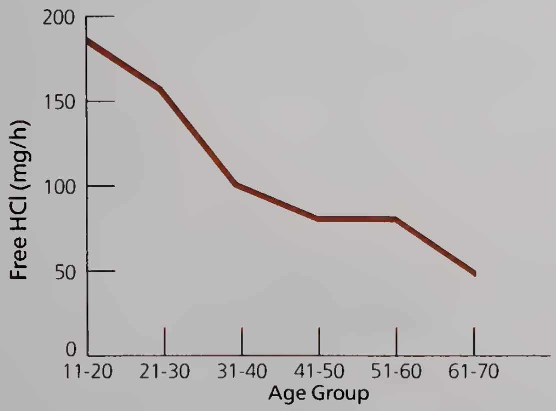

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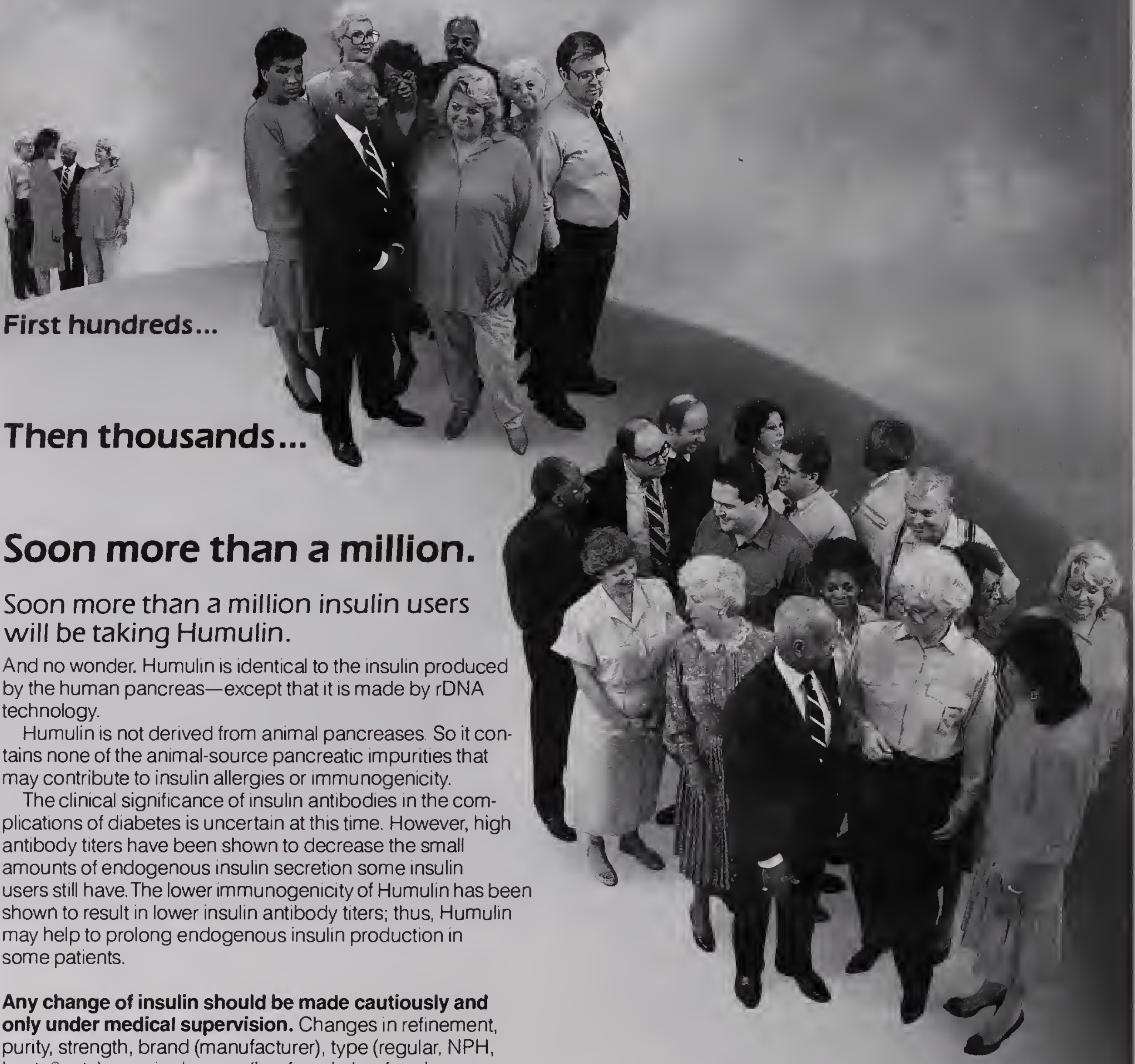

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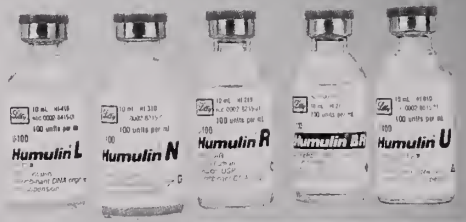

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# Primary Care for Children with Chronic, Life-threatening Conditions

*Barbara Elliott, Ph.D.*

**The role of primary care physicians in caring for children with chronic, life-threatening diseases (LTD) was evaluated. Family physicians, pediatricians, and subspecialists were surveyed to learn the number of these children added to their practices each year, the referrals they make for these children, and their attitudes toward the services. The service agencies (e.g., county and hospital social services, schools, treatment programs) were surveyed to investigate the same questions. Sixty-six percent of the physicians and 61% of the agencies responded. Death certificate information revealed a net increase of children with chronic, LTD each year. These children and their families are put in contact with other agencies through physician referrals to hospital social services. Physician attitudes toward discussing diagnosis, prognosis, and management decisions varied with physician specialty. For example, family physicians were more likely to discuss these issues with families over time, whereas subspecialists gave all the information at once. Comparable differences were found regarding palliative care decisions and post-death contacts, as well. Recommendations of the study include changes in referral patterns and in diagnostic evaluations due to decreasing hospitalizations and financial limitations of social services.**

Each year about 500 children between ages 3 months and 20 years die in Minnesota. Over past years, approximately half of these children have died suddenly in accidents. The other half have died as a consequence of chronic health conditions, with most succumbing to congenital anomalies, cancers, and kidney and heart diseases. These deaths occur after the child and family have lived with the condition for a length of time.

In the past decade, technological advances have enabled increasing numbers of accident victims as well as children with anomalies and diseases to survive with their life-threatening conditions (LTD) for longer periods of time. These children and their families have special needs while the children survive. A variety of service agencies (e.g., hospices, American Cancer Society, day activity centers) have developed to meet these needs.

Little is known about the differences in services available for families with children who have special needs due to their life-threatening diseases. In addition, there is little formal documentation about how families are referred for these services or how the medical care for the children varies with the attending physician's training.

In recent years, several providers in the Duluth area have been increasingly concerned about the adequacy of the services for these families. Consequently, a "Pediatric Study Group" was organized to evaluate the style of care and services available to these families and their children. Specifically, the study group wanted to document the net change in the numbers of children with life-threatening conditions each year, the services available to them, how their families became connected with the services, and some of the providers' (physician and agency) attitudes about caring for these children and their families.

## Methods

Two steps were used to compile this information. First, death certificates for the counties in our region were obtained for children (3 months to 20 years of age) in 1979, 1980, and 1981. By contacting the Center for Health Statistics in Minneapolis, Minnesota, and in Madison, Wisconsin, we acquired the death certificates we needed. From those documents, we determined the child's age, the primary and secondary (underlying) cause(s) of death, and the names of the physicians who signed the certificates.

The second step was to survey care providers in the area. Two groups were surveyed: physicians and agencies providing services. All of those surveyed served pediatric patients within 30 miles of our community. The agencies were selected from lists in the telephone book yellow pages. All agencies listed under "Social Service Organizations" were first contacted by phone. The caller learned whether the group was appropriate for the survey, the names of the director/administrator and (at least) one direct provider in the agency. When possible, employees were randomly selected for the survey. When random selection was not possible, the survey was sent to employees having the most contact with these families. The 136 people identified in these calls received the survey (46 administrators and 90 direct providers). Twenty-four administrators (81%) and 57 direct providers (61%) returned the survey form.

The physicians surveyed were also selected from the list in the yellow pages of the telephone book. We contacted at least one physician in every family practice group, all pediatricians, and the subspecialists whose practices included these children. Among the physicians surveyed were those who signed the death certificates we received. Sixty-six percent of the doctors returned the survey; fifty-nine percent of the family physicians, sixty-seven percent of the pediatricians, and seventy-four percent of the subspecialists did so.

The agencies and physicians were surveyed using forms developed by the committee. These survey forms specifically requested information about the number of LTD children served, referral and reimbursement patterns, specific services available, and the respondents' attitudes toward these children and their needs.

## Results

**Death Certificates:** The death certificates from the three-year period show fewer children died each successive year (Table 1). The differences seen were in the number of accidental and violent deaths. (The introduction of mandatory seat belt use for children during these years and the interventions available at a recently designated regional trauma center in our community are probably reflected in the decreasing numbers.) The number of deaths due to illness remained essentially constant over these three years.

**TABLE 1**
Death certificate information: causes of death

| Causes | 1979 | 1980 | 1981 | Average |
|---|---|---|---|---|
| Violent | 48 | 31 | 21 | 33 |
| Illness | 24 | 24 | 17 | 22 |
| TOTAL | 72 | 55 | 38 | 55 |

The ages and gender of the children who died were consistent with national death statistics (Table 2). More than two times as many males died as females, and half of the deaths occurred before the children's first birthdays. Ten of the children died at home, 30 died in hospitals, and one died in a children's home. The diagnoses included congenital anomalies, cancers, and infectious diseases. Four physicians signed 11 certificates. The rest of the certificates were each signed by a different physician.

**TABLE 2**
Death certificate information: ages and gender

| Age | Numbers (M/F) | |
|---|---|---|
| 3 mo - 12 mo | 13 | (10/3) |
| 1-5 Yr | 9 | (8/1) |
| 6-10 Yr | 4 | (3/1) |
| 11-15 Yr | 6 | (4/2) |
| 16-20 Yr | 9 | (4/5) |
| TOTAL | 41 | (29/12) |

**Surveys:** The surveys were designed with four purposes in mind. We wanted to know how many area children had LTD, what services were currently available to them, how families became connected with the available services, and the attitudes of the providers toward these services. The surveys that were returned by the agencies and the physicians provided different insights into these questions.

The specific agencies (Muscular Dystrophy Association, American Cancer Society, American Heart Association, etc.) documented the number of children between one and 20 years of age they were currently serving who had limited life spans. On the surveys, the social service agencies indicated that they learn about their clients from physician referrals; the other agencies are contacted more often by social services or directly by the parents. Half the agencies charge for their services; 94% of those who receive reimbursement are paid by government funds (Medicare, Medicaid or Social Security). Insurance and family funds pay for only 3% of the agency services (Table 3).

**TABLE 3**
Agency reimbursement

| | |
|---|---|
| No charge | 48% |
| Government (Medicare/Medicaid/SSI) | 28% |
| Medical Insurance | 18% |
| Family Funds | 3% |
| Foundation Funds | 2% |

The physician survey also asked about the number of children with limited life spans. The doctors identified the number of new patients (infants, children, or adolescents) with limited life spans they saw for the first time each year. On the surveys, the physicians also indicated that they commonly refer these families to social services and to clergy for support. The majority of the physicians also indicated they enlisted the aid of home care nursing programs or hospital services. In most cases, the social service departments in the hospitals provided the connection between the family and community agencies.

The survey also asked physicians how they talked with the families about the prognosis and whether they contacted them after the death of their child. When discussing the prognosis, all of the family physicians gave a little information at a time as the condition progressed. The majority of the pediatricians and all of the subspecialists gave all the information at once, with some offering a second opinion option at that time (Table 4). Differential responses were also recorded with the post-death contacts (Table 5). Two-thirds of the subspecialists and one pediatrician said they did not contact the families following a death; all of the family physicians said they contacted the families after a death.

## Discussion

The results of these surveys indicate that the number of children with chronic, LTD is increasing. The death certificates documented the number of children who died of diseases each year, and the physician survey indicated the approximate number of children identified with LTD each year (allowing four physicians per case). These numbers showed a net increase in the number of these children each year. These findings are consistent with improved technologies: more children are surviving with their anomalies and chronic conditions. As these numbers increase, more medical and social service resources will be needed, as is reflected in the addition of pedia-

**TABLE 4**
Physician discussion of the child's prognosis with the patient/family

| Method | Family Physicians | Pediatricans | Subspecialists | Total |
|---|---|---|---|---|
| All information at once (with 2nd opinion) | 0% | 75% | 67% | 43% |
| A little at a time | 67% | 25% | 33% | 35% |
| Talk in generalities | 33% | 0% | 0% | 20% |

**TABLE 5**
Routine physician post-death contacts with family

| | Family Physician | Pediatrician | Subspecialist | Total |
|---|---|---|---|---|
| Have contacts | 70% | 88% | 29% | 56% |
| Do not contact | 0% | 12% | 50% | 25% |
| Not yet needed to contact | 30% | 0% | 21% | 19% |

tric subspecialists and facilities to our medical community in the past few years.

The services these children and their families receive are coordinated through the hospital and county social services. Physicians commonly refer to the social services, clergy, and to home health care agencies. It seems the clergy are not part of the service network—they receive referrals but make none. The home health care (nursing care, etc.) needs are then coordinated with the social service agencies, which help arrange financing. The additional connections with community agencies are made through the social service referral networks. With limited hospitalizations, fewer families are being connected to services early in their children's illnesses. Most diagnostic evaluations are now done on an outpatient basis, so referrals into the system via hospital social service are delayed.

With the *increasing* numbers of children, we are also documenting *decreasing* funding for these coordinating agencies. Because hospitals' social services are not directly reimbursed and county social services receive federal and state funds, the era of DRGs and the Reagan administration are shrinking their budgets. Consequently, the fewer services these agencies can provide are being spread among more recipients. The smaller number of agency providers are trying to serve more patients, families, and physicians with fewer resources. These circumstances result in increasing frustration for the physicians and agencies, and less service to the patients and families.

## Recommendations

What can we do to meet this growing discrepancy? Is there a way to serve everyone's needs (physicians', agencies', patients', and families') despite the current trends? Physicians need to be able to provide timely medical care for these children and not become responsible to manage the financial, personal, and social issues that accompany LTD. Agencies need to provide and/or connect families with financial, personal, and social support. However, they cannot be expected to provide these services at inordinate personal or financial cost. Nor should they be expected to provide services that are no longer available or to provide services that are not in their purview (e.g., to explain medical prognoses or findings to patients and their families). Patients and their families need expert health management and honest, supportive information from their physicians. Patients and their families also need access to supportive services (financial, housing, respite care, counseling, etc.) through agencies designed to meet these needs. After considering the economics, demographics, and circumstances documented by the study, we make the following recommendations:

1) Make sure children's families are in touch with social services early in the course of the children's illnesses.

2) Encourage families to keep their children at home and keep parents on the care team.

3) Begin and continue prognosis conversations over time to ready patients and families for outcome; continue contacts throughout bereavement.

## Acknowledgment

The author acknowledges the help of the Pediatric Study Group in completing this study.

*Barbara Elliott is the director of Behavioral Science and Research at the Duluth Family Practice Center in Duluth, Minnesota. She presented this paper at the North American Primary Care Research Group meeting in Baltimore, Maryland, April 1986. The research was funded by Hospice Duluth and the Duluth Graduate Medical Education Council, Inc.*

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**4.** Be moderate in consumption of salt-cured, smoked, and nitrite-cured foods.

**5.** Cut down on total fat intake from animal sources and fats and oils.

**6.** Avoid obesity.

**7.** Be moderate in consumption of alcoholic beverages.

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# Abstracts

## Northwestern Pediatric Society

*(Editor's Note: Following are abstracts of the papers presented at the 75th anniversary meeting of the Northwestern Pediatric Society, September 18, 1987, in Bloomington, Minnesota.)*

### Conjugate Haemophilus Influenzae Type B (Hib) Vaccine: Preliminary Report of Immunization at 2, 4, and 6 Months of Age

*B. Sullivan, D. Granoff, K. Mitchell, S. Zirbel-Donish, J. Meyer*
*Department of Pediatrics, Marshfield Clinic, Marshfield, WI 54449 and Washington Univerity, St. Louis, MO*

A vaccine against Hib consisting of a protein, CRM-197—a diptheria toxin analog, conjugated to 20 unit oligosaccharides of the Hib polysaccharide polyribosylribitol phosphate (PRP) was tested in children beginning at 2 months of age. After obtaining parental informed consent, 25 μg of vaccine was given simultaneously but at a separate site from the DTP immunization at 2, 4, and 6 months of age. Blood was obtained prior to each vaccination and at 1 and 3 months following the last injection. The Farr assay was used to determine the concentration of antibody to PRP in the sera. Paired specimens were analyzed by Praxis Biologics, manufacturers of the vaccine, and by Dr. Granoff's laboratory at Washington University. There was reasonable correlation of results between the two laboratories. Following the first vaccination, less than 10% of children achieved a titer of 1 μg/ml. However 85% had titers >1 μg/ml following the second immunization and 95% or more had protective titers after the third immunization. No significant detrimental side effects have been observed.

### Apparent Pre-excitation of Tricuspid Atresia

*Thomas M. Zellers, David J. Driscoll, Co-burn J. Porter*
*Mayo Clinic, Rochester, MN*

It was our clinical impression that ECG evidence of pre-excitation (PE) is found more commonly in patients with tricuspid atresia (TA) than previously reported (0.29-1.3%). We attempted to determine a) the incidence of PE by surface ECG in patients with TA and b) if this represents the presence of a true accessory pathway.

Surface ECGs from 183 consecutive patients with TA evaluated at the Mayo Clinic between 1981-1986 were reviewed by 3 pediatric cardiologists for evidence of PE. The patients' ages ranged from 4/12 to 21 years. The M:F ratio was 5:4. PE was diagnosed if the PR interval (PR) was ≤.10 seconds, the QRS was ≥.10 seconds, and a delta wave was present. Of the 183 patients, 22 (12%) had PR ≤.10 seconds and 9 patients (5%; 6F, 3M) fulfilled criteria for PE, 5 of which had a history of SVT. Four of the 5 patients had invasive electrophysiologic studies (EPS) performed. Only 1 patient had an accessory pathway, but 2 enhanced AV node conduction and 1 had normal AV node conduction.

We conclude: 1) surface ECG evidence for PE in patients with TA is more common (5%) than previously reported. 2) Apparent PE can be due to an accessory pathway or enhanced AV node conduction (in combination with LVH). 3) Patients with TA being considered for intracardiac repair should have their ECG reviewed carefully for apparent PE; if found, especially in the presence of SVT, they should undergo EPS to determine the presence and location of an accessory pathway for surgical ablation.

### Critical Aortic Stenosis in the Newborn: Early Risk Factors and Later Prognosis

*K.J. Tveter, M.D.; S. Einzig, M.D.; W.S. Ring, M.D.; T. Bass, M.D.; R.V. Lucas, M.D.; J.E. Foker, M.D.*
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The management and operative results of critical aortic stenosis (CAS) in newborns have recently changed. Previously, so few newborns survived valvotomy that little information has been available on these critically ill infants. The purpose of this study is to review the 26 newborns (≤14 days) who underwent aortic valvotomy (AV) for CAS from 1971-1986 for determinants of survival and long-term prognosis. Nearly all (25/26) were in severe cardiac failure (CF) with some combination of acidosis, ventilator and inotropic support and 22/26 were operated on from 1-7 days of age. Ten significant associated cardiac defects were found in nine patients, excluding patent ductus arteriosus. Diagnosis has been exclusively by echocardiography (ECHO) since 1984 and has allowed the stress of cardiac catheterization to be avoided. Operative survival was 16/26 (61%) including 5 infants dying weeks-months later from chronic CF (3) or following hypoplastic left heart repair (2). No difference was found between survivors and nonsurvivors in pre-operative LV-aortic gradient, or more recently, systolic shortening fraction. Very young age by itself was not a risk factor, as five survivors were 1-2 days old at AV. Survival was determined by left ventricular (LV) morphology, rather than function. The main risk factors were the presence of a hypoplastic LV (HLV) or significant endocardial fibroelastosis (EFE). In the absence of HLV and EFE, 11/13 (86%) survived. The average follow-up was 4.6 years (8 mos-11 years) and revealed the continuing severity of the problem. Four of 11 survivors have required a second AV or valve replacement (7 mos-2 yrs), two have recurrent AS, and one died suddenly 11 years post AV in presumed recurrent AS. Nine of ten long-term survivors are asymptomatic. In summary, the diagnosis of CAS in the newborn is now exclusively by ECHO. Despite severe LV dysfunction and very young age, survival is high in the absence of HLV and EFE, however, persistent valve deformity leads to a high reoperation rate.

### Liver Transplantation for Metabolic Liver Disease

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Liver transplantation is accepted therapy for end-stage liver disease not amenable to standard medical or surgical treatment. For the patient with metabolic disease, the procedure is particularly beneficial, since it not only cures the liver disease, but also corrects the hepatic metabolic defect.

Between November 1982 and June 1987, 116 transplants were performed at the University of Minnesota, of which 20 were for metabolic liver disease. Seventeen patients were children from 7 months to 18 years and 3 were adults. Diagnoses were ∝-1-antitrypsin deficiency (∝-1-atd)-9 patients, tryosinemia-4, Wilson's Disease-2, porphyria-2, glycogen storage disease (GSD), Type Ia-2 and GSD-IV-1. Four patients had combined liver/kidney transplants.

Three-month survival for metabolic patients is 80%, that for all transplants is 65%. Since January 1985, 3-month survival for metabolic patients was 100%. Seven patients died during the 5-year period. Cause of death included infection-3, CNS hemorrhage, metastatic Ca, AIDS, 1 each, and 1 of unknown cause. Highest mortality was in the ∝-1-atd patients (4/9), which tended to be smaller and sicker at transplant. Metabolic abnormalities were corrected in all patients, and all survivors are home functioning normally. The 4 liver/kidney transplants have normal function of both grafts.

We conclude that hepatic transplantation is an important advance in the treatment of metabolic liver disease. These patients are particularly favorable candidates for transplant with low operative mortality and excellent long-term survival.

## Childhood Lyme Disease in Wisconsin

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Lyme disease encompasses rash (erythema chronicum migrans), arthritis, cardiac disease and some neurological disease. Consequently in an endemic area, serology for Borrelia burgdorferi is included in the work-up of patients presenting with disease possibly compatible with Lyme disease. Over two years, we have identified 43 patients who had positive serology by indirect fluorescent antibody. By this method, titers >1-256 were considered positive. Half of the children were female and the youngest child was 11 months of age. Twenty-two had arthritis, 7 had neurological symptoms ranging from lethargy and headache to aseptic meningitis, 1 had a cardiomyopathy (and ultimately died), and the remainder had a variety of systemic illnesses. All were treated with a variety of penicillins or tetracycline. In some there were serological or cultural evidence of alternative diseases that could adequately explain the clinical picture. Further, a few had alternative serologies that did not confirm Lyme disease. In an endemic area, positive serology for Lyme disease may confirm actual ongoing disease. However, we would also be a witness to two phenomena: 1) that the IFA (and perhaps other) serologies may be unreliable, and 2) in an endemic area, there are likely many individuals with positive serologies in whom disease may not be active and a positive serology may not offer the explanation for the symptoms that are manifested.

## Changing Survival of Extremely Premature Infants

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Extreme prematurity poses a dilemma for both obstetricians and pediatricians as the limits of viability have been changing in recent years. Prenatal determination of potential fetal viability is important, as subsequent outcome is often determined by the aggressiveness of therapy instituted prior to delivery. Recommendations to parents regarding transfer to high-risk centers, mode of delivery, and aggressiveness of neonatal support following birth need to be based on current information. In an attempt to better analyze this concept, we reviewed the survival of all infants admitted to Minneapolis Children's Medical Center with birth weights less than 750 gm and gestational ages equal to or less than 26 weeks. A summary of these data is as follows:

| BW-birth weight (grams) | GA-gestational age (weeks) | | | LS-length of stay in NICU (days) | | |
|---|---|---|---|---|---|---|
| | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 |
| Number | 16 | 23 | 15 | 15 | 36 | 36 |
| survival (%) | 25 | 17 | 40 | 47 | 44 | 56* |
| survivors BW | 718 | 663 | 643 | 635 | 635 | 625* |
| survivors GA | 25.5 | 25.0 | 24.8 | 24.2 | 25.0 | 24.3* |
| survivors LS | 109 | 99 | 75 | 85 | 69 | 69* |

*For regression slope compared to slope O, P <.05

Forty percent of all infants admitted since 1981 expired in the first 48 hours of life, with no statistically significant decline over recent years. Conversely, survival of infants who are alive at 48 hours has steadily risen from 40% in 1981 to 83% in 1986. Mean age at death in non-survivors in 1986 was 3.7 ± 5.7 days. No infant less than 23 weeks gestation survived. We conclude that an aggressive approach to therapy in infants greater than 23 weeks gestation is now appropriate. Concern that aggressive management of these infants frequently results in long-term hospitalization and inevitable death does not appear to be warranted. However, concern remains over the significant morbidity in surviving infants. Until new technology or therapy is available to improve the immediate postnatal prognosis, it is unlikely that additional significant gains in survival will be attained. Additional effort is needed to improve the substantial morbidity in surviving infants.

## Autoimmune Neutropenia of Infancy: The ITP of Neutrophils

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Autoimmune neutropenia of infancy (AINI) was diagnosed in 46 children in Minnesota, Wisconsin, and Washington D.C. based on absolute neutrophil count (ANC) 0 to 600 and presence of neutrophil-specific antibodies. At diagnosis, the mean age was 12 mo (range 2 to 38); mean ANC, 232 (range 0 to 520); and mean percent neutrophils, 4% (range 0% to 13%). There were 21 males, 25 females. The duration of neutropenia can be described as follows: among the 14 patients who resolved (ANC >1000 for three consecutive months), the mean time to resolve was 27 months (range 5 to 47 months). For those 18 patients not resolved but followed for at least one year, the mean duration of this illness was 25 months (range 12 to 64 months). Fourteen patients were neutropenic for follow-up of less than one year. AINI usually was an isolated diagnosis but was concurrent with an Epstein Barr virus infection in one case. During neutropenia most patients had only typical childhood infections, but there was one case each of deep cervical abscess, periorbital cellulitis, and recurrent tracheal granulomas. No children were bacteremic or clinically septic. There were no deaths.

AINI is a recently recognized and relatively common illness and is clearly the most frequent cause of chronic neutropenia in children. Serum tests for antineutrophil antibodies have become reliable in the last 5 years, should be performed in all suspicious cases, and will allow further definition of this newly recognized condition.

## Effects of a Nocturnal Nasogastric Infusion of Carbohydrate Infused at an Increased Rate in Children with Glycogen Storage Disease Type I on Growth

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Based on short-term studies, a nasogastric (NG) infusion (INF) rate of about 9.0 mg of carbohydrate (CHO)·kg$^{-1}$·min$^{-1}$ (~1½ times hepatic glucose production in normal children) optimizes organic acidemia in children with glycogen storage disease type I (GSD I). Whether this increased nocturnal rate of CHO INF is associated with long-term normalization of plasma lactate concentrations and acceptable linear and weight growth is unknown. Six children with GSD I (52±10 months) received 9 mg·kg$^{-1}$·min$^{-1}$ as glucose and Vivonex (6 and 3 mg CHO·kg$^{-1}$·min$^{-1}$, respectively) nightly for 2.1±0.1 years. The children were placed on a diet low in galactose, fructose, and fat with frequent snacks during the day. Total daily caloric intake over this period determined by 6 separate weekly prospective dietary histories was 85.9±2.6 cal/kg (13.6±0.8, 2.5±0.3, and 2.4±0.1 g.kg$^{-1}$ day of CHO, protein and fat, respectively). The nocturnal infusion provided 26±3% of the total calories. Plasma for glucose, lactate, and triglycerides was obtained during the last hour of the NG INF on several occasions over the study period. The average plasma glucose and lactate concentrations for each child were similar to our previously reported values following short-term CHO INF at this rate (glucose: 91±10 mg/dl vs 90±5 mg/dl); lactate:

5.5 ± 0.8 vs 6.5 ± 0.7 mM). The average plasma triglycerides remained elevated (393 ± 60 mg/dl). The mean growth rate (6.7 ± 0.9 cm/year) was normal without excessive weight gain (2.2 ± 0.7 kg/year). In summary and conclusion, despite lack of normalization of plasma lactate and triglycerides, NG CHO INF at night at a rate of 9.0 $mg \cdot kg^{-1} \cdot min^{-1}$ in children with GSD I was associated with normal growth.

## Cholelithiasis in Premature Neonates

*Thomas J. Pokora, M.D.*
*St. John's Hospitals*

Cholelithiasis has been reported in children of all ages including newborns and infants. Until recently almost all gallstones were reported in newborns with anatomic deformities of the common bile or cystic duct, ileal disease or hemolytic disease. Recently, Whitington and Block reported three premature infants with gallstones and suggested that cholelithiosis resulted from the treatment of their bronchopulmonary dysplasia with total parenteral nutrition and furosemide.

Three neonates with cholelithiasis are reported. All had the following problems: prematurity, respiratory distress syndrome, bronchopulmonary dysplasia with fluid restrictions and diuretic therapy, and apnea with aminophylline therapy. Our patients were on short courses of total parenterol nutrition (less than two weeks) but needed concentrated formula (24-30 calories per ounce).

I believe the etiology of cholelithiasis in our patients is multifaceted, including the many physiochemical alterations and chronic polypharmacy experienced during premature life.

## Respiratory Arrest in Children with Asthma: Allergen Exposure as a Possible Risk Factor

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*Rochester, MN*

Respiratory arrest or sudden death in children with asthma is a rare but significant complication of pediatric reversible obstructive airway disease. Allergen exposure has not been identified as a major risk factor for this phenomenon. Two girls with asthma have been identified who suffered respiratory arrest during the Alternaria season in southeast Minnesota. Both patients survived the arrest but required intensive emergency care and admission to special care units. Using puncture skin tests with freeze-dried Greer Alternaria extract, both patients were identified by significant wheals with flare and pseudopods as sensitive to Alternaria. We used RAST (purified Alternaria product Alt 1, specific IgE) to measure levels high above negative controls. In addition to an intensive medical program, both patients were started on crude Alternaria extract immunotherapy.

In addition to previously established risk factors, the need to consider allergen exposure must be entertained for sudden death in children with asthma. The importance of Alternaria sensitivity as a risk factor for respiratory arrest may be elucidated as this phenomenon is further documented.

## Use of Chemodenervation (Botulinum A Toxin) to Treat Strabismus in Children

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Botulinum A toxin has been released for investigational treatment of strabismus and eyelid disorders. Using electromyographic localization, a minute quantity of the toxin is injected into an extraocular muscle as an alternative to strabismus surgery. The temporary chemodenervation weakens the injected muscle and allows the antagonist muscle to strengthen, improving ocular alignment. Nine patients, ages 1½ to 12 years, have undergone chemodenervation at the University of Minnesota. Three patients had previous surgery but desired improvement in their ocular alignment. Three patients had cerebral palsy and one patient showed a sixth nerve paresis related to brain stem glioma. Twenty-seven percent of the injections were performed in a clinic setting under topical anesthesia. The remainder were conducted in the surgery center, using a small intravenous dose of ketamine to facilitate placement of the needle electrode. Three patients underwent more than one injection. No systemic complications were encountered following the treatment. Ocular side effects included a transient ptosis, temporary overcorrection and diplopia, subconjunctival hemorrhage, eyelid ecchymosis, inadvertent globe perforation and vitreous hemorrhage. Alignment was initially improved in seven cases. Follow-up shows satisfactory alignment in four patients. Two patients underwent additional strabismus surgery to correct the remaining strabismus. In summary, chemodenervation (Botulinum A toxin) of extraocular muscles is a satisfactory alternative to strabismus surgery for some pediatric patients. It is less expensive and less time consuming than surgery, and side effects are usually mild and transient. Some patients will require more than one injection, or if post-injection alignment is unsatisfactory, surgery may be considered.

## Four-Month-Old Infant with Peritoneal and Colonic Hemangiomatosis Treated with Laser, Surgery, and Steroids

*Arnold S. Leonard, M.D.; Eduardo Ibarguen S., M.D; Harvey L. Sharp, M.D.*

A four-month-old boy presents with a 5-day history of abdominal distension and blood in his stools. His exam showed moderate ascites, bilateral hydroceles and a large ecchymotic lesion over his lower left back. His hemoglobin was 7.0 gr/dl, platelets were 37,000/cu mm, PT was 16 sec. Evaluation of his ascites, thrombocytopenia, anemia, and coagulopathy included a bone marrow revealing hyperplasia of erthyroid and megakaryocytic lines, abdominal CT and ultrasound consistent with ascites but no other structural defect, normal tagged red cell and tagged platelet studies, normal liver and kidney tests, normal metabolic studies, and negative viral and bacterial studies.

He was then referred to the University of Minnesota where his platelets were 19,000 Hgb 8.6, PT 15.8, and fibrinogen 0.05. An abdominal paracentesis revealed sero-sanguineous fluid with an electrolyte and protein composition similar to plasma values. An anteriogram revealed several intraabdominal vascular defects. A subsequent laparotomy revealed multiple tiny hemangiomas involving the peritoneum, retroperitoneum, and the entire extension of the colon. Laser ablation of the peritoneal and retroperitonealhemangiomas was carried out. High dose steriods were initiated postoperatively in an attempt to involute the colonic hemangiomas, but he continued to have persistent thrombocytopenia and coagulopathy. After 5 weeks of medical therapy, he underwent a second laparotomy with subtotal colectomy and ileostomy and further laser therapy of remaining hemangiomas. The lesions that had been previously subjected to laser therapy had not recurred and the wounds had healed well. His platelet count rose to over 50,000 after surgery, his coagulopathy resolved, and he is currently being weaned off steroids.

## Vitamin $B_{12}$ Responsive Megaloblastic Anemia, Homocystinuria, and Transient Methylmalonic Aciduria in Cobalamin E Mutant

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A two-year-old child with developmental delay, megaloblastic anemia, homocystinuria, and mild transient methylmalonic aciduria is described. The patient responded clinically and biochemically to administration of pharmacological doses of hydroxycobalamin (OH-$B_{12}$). Studies on the patient's skin fibroblasts showed a normal uptake of vitamin $B_{12}$ by the cells but abnormal metabolism of this vitamin within the cell. The generation of methylcobalamin (ME-$B_{12}$) was deficient, while the generation of 5'-deoxyadenosylcobalamin (Ado-$B_{12}$) was above normal. Incorporation of the methyl carbon from methyltetrahydrofolate (Me-THF) into protein was extremely deficient in the patient's fibroblasts, indicating a defect in remethylation of homocysteine to methionine by methionine synthetase. Mild deficiency in incorporation of propionyl-CoA into protein indicated a partial defect in the function of methylmalonyl-CoA mutase. Complementation studies were consistent with a cobalamin (Cbl) E mutant. This is the third described patient with Cbl E mutant and in whom clinical and biochemical observations suggest the existence of heterogeneity within this complementation group.

## Immunodeficiency and Instability of Chromosomes 1, 9, and 16

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Immunodeficiency and chromosomal breakage are associated in several syndromes: Bloom's syndrome, ataxia telangiectasia, and xeroderma pigmentosum. We describe a case of immunodeficiency uniquely associated with instability chromosomes 1, 9, and 16. A 6-month-old caucasian female presented with recurrent otitis media, frequent respiratory infections, chronic diarrhea, developmental delay, and dysmorphic features. B and T lymphocyte numbers and subsets were normal, IgG and M were low, IgA and E were absent, specific antibody response to diptheria and tetanus toxoid was absent, and there was poor immunoglobulin production by B cells in response to T cell dependent and independent stimulation. In contrast, T cell function appeared normal, with positive skin tests, normal natural killer and cytotoxic T cell function, and normal proliferation after mitogenic stimulation. Multiple aberrations of chromosomes 1, 9, and 16 were found in 82-94% of metaphases. Parents had normal IgG and A but elevated IgM. Abnormalities of chromosomes 1, 9, and 16 were found in 5% (maternal) and 2.7% (paternal) metaphases. This represents the fifth reported case of immunodeficiency associated with instability of chromosomes 1, 9, and 16. It is the first demonstration that the immune defect resides primarily in B lymphocytes. It is unclear how abnormalities in these chromosomes result in abnormal B cell function; perhaps regulatory proteins essential to B lymphocyte function are altered in this disease. All cases have been sporadic, but our findings of low numbers of abnormal metaphases in both parents suggest an autosomal recessive inheritance.

## Hypoglycemia from Maternal Atenolol (Tenormin) Use During Pregnancy

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*St. John's Hospitals*

Atenolol is a $\beta_1$, selective adrenergic blocker used for chronic hypertension and pregnancy-induced hypertension. Its relative $\beta_1$ selectivity diminishes with higher doses. Reportedly, atenolol does not pentiate insulin-induced hypoglycemia and does not delay recovery of blood glucose to normal levels.

We report a newborn exposed to atenolol during gestation. Hypoglycemia with hyperinsulinemia developed within 24 hours of birth. Hypoglycemia persisted despite greater than 12 milligrams per kilogram per minute of intravenous glucose. Serum glucose levels improved after administration of hydrocortisone and diazoxide.

Atenolol has been reported to be safe during pregnancy without side effects to the fetus or newborn.

Any drug used during pregnancy must be given with caution and when clearly indicated. Despite reported safety of atenolol, we conclude that newborns exposed to this medication should be monitored for hypoglycemia.

## Intralesional Steroid Injection of Periocular Hemangiomas

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Capillary hemangiomas occurring in early childhood typically appear within the first few months of life, undergo a growth phase, and then slowly regress in size. While usually considered to have a benign course, hemangiomas can lead to visual impairment when located in a periocular location. Therapeutic modalities have included surgery, systemic cortiocosteriods, radiation, cryotherapy, and sclerosing injections, but results are often unsatisfactory and unpredictable. We report six patients treated with intralesional injection of depo-steroid of adnexal hemangiomas. All patients presented with ptosis and five showed asymmetric refractive errors which would interfere with normal visual development. Three patients received a single injection of steriod, and two patients each required three injections to achieve a satisfactory result. All patients received intermittent occlusion of the sound eye for amblyopia prophylaxis. Four patients experienced a stable regression of the hemangiomas and improvement in the ptosis. One patient subsequently required surgical excision of the hemangioma. While refractive error was reduced, three patients required glasses for persistent astigmatism. Complications included swelling, bruising, and temporarily visible subcutaneous deposits of steriod. Good vision has been achieved in all cases. Children with periocular hemangiomas require prompt evaluation and careful follow-up. While many adnexal hemangiomas can be managed conservatively, intralesional injection of steriod may be considered when normal visual development is threatened. Our results confirm previous observations that intralesional steriods can produce satisfactory cosmetic and functional results when used to treat periocular hemangiomas in children.

## An Unusual Case of Severe Infantile Vitamin $B_{12}$ Deficiency (Dietary Acquisition of Intrinsic Factor Blocking Antibody)

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A mother's pernicious anemia was diagnosed after her 8-month-old infant presented with severe anemia, pancytopenia, pernicious vomiting, fever, and progressive neurological regression. Development had been normal through age five months. Baby's diet consisted solely of breast milk. Inspection of the erythrocytes showed macrocytosis and mutlilobed polymorphonuclear leukocytes. Vitamin $B_{12}$ level was less than 50 pg/mL in baby's serum, mother's serum and breast milk, all markedly lower than normal control values. Intrinsic factor blocking antibody was present in mother's serum and breast milk. With vitamin $B_{12}$ supplementation, infant formula, and solid foods, the hematologic and neurologic manifestations have improved to near normal. We considered that intrinsic factor blocking antibody was present in the mother's milk and further impaired vitamin $B_{12}$ availability to the infant. However, we have subsequently found that normal human milk contains inhibitor(s) of vitamin $B_{12}$ binding by intrinsic factor.

## Cyanosis in an Infant Caused by a Fetal M-Hemoglobin

*John R. Preist, Bo E. Hedlund, St. Paul Children's Hospital and University of Minnesota*

A newborn girl was persistently cyanotic after birth despite normal pulmonary and cardiac function and exclusive breast feeding. Metor sulfhemoglobinemia was initially suspected but levels of metHb were not significantly elevated. Arterial blood gases were as follows: room air: pH/7.39, $PCO_2$ 38, $PO_2$ 54, measured $O_2$ sat. 73%. 100% oxygen: pH 7.40, $PCO_2$ 41, $PO_2$ 401, the measured oxygen saturation increased to 81%. Isoelectric focusing revealed the presence of a minor band in a position similar to HbC. A difference spectrum exhibited two peaks at 491 and 601 nm, characteristic of certain M-hemoglobins. Peptide analysis of the fetal hemoglobin chain, carried out in a collaborating laboratory, subsequently provided evidence for the presence of such a hemoglobin. The mutant, Hb FM-Fort Ripley ($\gamma$92 His→Tyr), resembles Hb M-Hyde Park, $\beta$92 His→Tyr. It is of interest that the laboratory results did not reveal the presence of significant levels of methemoglobin, while the physiological marker, cyanosis, was evident. One possible explanation is that this particular M-hemoglobin is relatively unstable, thereby leading to low circulating levels. At five months of age, the child no longer had evidence of cyanosis.

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## Rhabdomyolysis, Myoglobinuria, and Acute Renal Failure Complicating Stevens-Johnson Syndrome

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The association of Stevens-Johnson syndrome with rhabdomyolysis, myoglobinuria, and acute renal failure has not previously been reported.

A previously healthy 6-year-old boy with a four-day history of fever and cough presented to the emergency room with skin lesions typical of Stevens-Johnson syndrome. During the first hours following admission, he developed acute respiratory failure due to airway occlusion by mucoid material and sloughed epithelium from erythema multiforme lesions involving the respiratory tract, and required intubation. Respiratory acidosis was severe with a peak $PaCO_2$ of 199 and an arterial pH of 6.6. Neither hypoxia nor cardiovascular compromise occurred.

Serum creatine kinase (CK) was 5,566 u/L on day 3 and rose to a peak of 20,400 u/L on day 8. Serum CK levels then fell rapidly. Serum myoglobin on day 3 was >2,500 ng/mL and remained at this level for 16 days. Acute renal failure ensued with a peak serum creatinine of 4.8 mg/dL and peak serum urea of 275 mg/dL seen on days 4 and 8, respectively. Renal function improved following mannitol diuresis and urine alkalinization.

Rhabdomyolysis can be caused by various factors including crush injuries, hereditary muscle diseases, and certain infections. An extensive search for an infectious agent in this case was unrewarding. Acidosis has not been known to cause rhabdomyolysis: Its role in this case is uncertain.

Rhabdomyolysis with myoglobinuria should be recognized as a potential complication in patients with Stevens-Johnson syndrome.

## Inoperable Plasma Cell Granuloma of the Heart: Spontaneous Decrease in Size in Over 11 Months

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Plasma cell granuloma (PCG) is a common lesion presenting as a peripheral pulmonary mass in the lung of children. Because of its location, surgical resection is usually curative. However, sometimes the location of the lesion makes surgical resection risky, if not impossible. We report an atypical PCG involving the heart which spontaneously decreased in size by 40 percent over 11 months. A 14-month-old baby girl was referred to our institution for evalution of an asymptomatic tumor of the heart. Biopsies from a previous thoracotomy showed a benign, fibroblastic inflammatory proliferative process with features consistent with PCG. Magnetic resonance imaging of the heart demonstrated a large soft tissue mass originating in the region of the left atrioventricular groove and extending to involve the left ventricle and left atrium. The left coronary artery, left pulmonary veins, and coronary sinus were all involved by the tumor.

Considering the asymptomatic nature of the lesion and that it could not be resected without compromising the left coronary artery, the patient was dismissed with follow-up planned. A subsequent MRI at 25 months of age demonstrated that the mass had decreased in size by 40 percent (approximately 54 cc to 33 cc). Our patient demonstrates that in deciding treatment options for PCG involving the heart, no matter how extensive the involvement, observation should be considered as an option since it has now been demonstrated that the cardiac mass can spontaneously recede without therapy. However, continued careful follow-up is necessary, because the mass may behave differently in the future.

## Pseudomonas Aeruginosa Meningitis, Treatment Via Intraventricular Reservoir

*J. Burzynski, B. Sullivan, T. Silberman, F. Harris, G. Plank*
*Department of Pediatrics and Neurosurgery, Marshfield Clinic, Marshfield, WI*

A 19-month-old white female developed a urinary tract infection due to Pseudomonas aeruginosa two days following surgical excision for a posterior fossa medulloblastoma. Treatment was begun with gentamicin intravenously. One week later the child redeveloped a fever and became very irritable. Aspiration of cerebrospinal fluid from the shunt had no organisms on Gram stain but grew Pseudomonas within 24 hours. A CSF shunt that had been placed to decompress the ventricular system was removed at that point and a ventriculostomy tube was placed in the opposite ventricle with a cap that allowed direct infusion of antibiotic into the ventricle. Antibiotics were switched from IV mezlocillin, tobramycin, and vancomycin to IV pipracillin (300 mg/kg/d) and IV amikacin (15 mg/kg/d) and intraventricular amikacin. Pharmacokinetics were performed to determine serum and CSF levels of amikacin and dosages were adjusted accordingly. Treatment was continued for 23 days. CSF cultures were sterile at 48 hours after onset of therapy (obtained at trough amikacin level). The patient recovered and has not relapsed but is not neurologically normal, at least in part attributable to the tumor. This approach and therapy of Pseudomonas meningitis should bear favorable comparison to the recommended use of third generation.

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**Contraindications:** There are no known contraindications to the use of 'Tagamet'.

**Precautions:** While a weak antiandrogenic effect has been demonstrated in animals, 'Tagamet' has been shown to have no effect on spermatogenesis, sperm count, motility, morphology or in vitro fertilizing capacity in humans.

In a 24-month toxicity study in rats at dose levels approximately 9 to 56 times the recommended human dose, benign Leydig cell tumors were seen. These were common in both the treated and control groups, and the incidence became significantly higher only in the aged rats receiving 'Tagamet'.

Rare instances of cardiac arrhythmias and hypotension have been reported following the rapid administration of 'Tagamet' HCl (brand of cimetidine hydrochloride) injection by intravenous bolus.

Symptomatic response to 'Tagamet' therapy does not preclude the presence of a gastric malignancy. There have been rare reports of transient healing of gastric ulcers despite subsequently documented malignancy.

Reversible confusional states have been reported on occasion, predominantly in severely ill patients.

'Tagamet' has been reported to reduce the hepatic metabolism of warfarin-type anticoagulants, phenytoin, propranolol, chlordiazepoxide, diazepam, lidocaine, theophylline and metronidazole. Clinically significant effects have been reported with the warfarin anticoagulants; therefore, close monitoring of prothrombin time is recommended, and adjustment of the anticoagulant dose may be necessary when 'Tagamet' is administered concomitantly. Interaction with phenytoin, lidocaine and theophylline has also been reported to produce adverse clinical effects.

However, a crossover study in healthy subjects receiving either 'Tagamet' 300 mg. q.i.d. or 800 mg. h.s. concomitantly with a 300 mg. b.i.d. dosage of theophylline (Theo-Dur®, Key Pharmaceuticals, Inc.), demonstrated less alteration in steady-state theophylline peak serum levels with the 800 mg. h.s. regimen, particularly in subjects aged 54 years and older. Data beyond ten days are not available. (Note: All patients receiving theophylline should be monitored appropriately, regardless of concomitant drug therapy.)

Lack of experience to date precludes recommending 'Tagamet' for use in pregnant patients, women of childbearing potential, nursing mothers or children under 16 unless anticipated benefits outweigh potential risks; generally, nursing should not be undertaken in patients taking the drug since cimetidine is secreted in human milk.

**Adverse Reactions:** Diarrhea, dizziness, somnolence, headache, rash. Reversible arthralgia, myalgia and exacerbation of joint symptoms in patients with preexisting arthritis have been reported. Reversible confusional states (e.g., mental confusion, agitation, psychosis, depression, anxiety, hallucinations, disorientation), predominantly in severely ill patients, have been reported. Gynecomastia and reversible impotence in patients with pathological hypersecretory disorders receiving 'Tagamet', particularly in high doses, for at least 12 months, have been reported. Reversible alopecia has been reported very rarely. Decreased white blood cell counts in 'Tagamet'-treated patients (approximately 1 per 100,000 patients), including agranulocytosis (approximately 3 per million patients), have been reported, including a few reports of recurrence on rechallenge. Most of these reports were in patients who had serious concomitant illnesses and received drugs and/or treatment known to produce neutropenia. Thrombocytopenia (approximately 3 per million patients) and a few cases of aplastic anemia have also been reported. Increased serum transaminase and creatinine, as well as rare cases of fever, interstitial nephritis, urinary retention, pancreatitis and allergic reactions, including hypersensitivity vasculitis, have been reported. Reversible adverse hepatic effects, cholestatic or mixed cholestatic-hepatocellular in nature, have been reported rarely. Because of the predominance of cholestatic features, severe parenchymal injury is considered highly unlikely. A single case of biopsy-proven periportal hepatic fibrosis in a patient receiving 'Tagamet' has been reported.

**How Supplied: Tablets:** 200 mg. tablets in bottles of 100; 300 mg. tablets in bottles of 100 and Single Unit Packages of 100 (intended for institutional use only); 400 mg. tablets in bottles of 60 and Single Unit Packages of 100 (intended for institutional use only), and 800 mg. Tiltab® tablets in bottles of 30 and Single Unit Packages of 100 (intended for institutional use only).

**Liquid:** 300 mg./5 ml., in 8 fl. oz. (237 ml.) amber glass bottles and in single-dose units (300 mg./5 ml.), in packages of 10 (intended for institutional use only).

**Injection:**
**Vials:** 300 mg./2 ml. in single-dose vials, in packages of 10 and 30, and in 8 ml. multiple-dose vials, in packages of 10 and 25.

**Prefilled Syringes:** 300 mg./2 ml. in single-dose prefilled disposable syringes.

**Plastic Containers:** 300 mg. in 50 ml. of 0.9% Sodium Chloride in single-dose plastic containers, in packages of 4 units. No preservative has been added.

**ADD-Vantage®* Vials:** 300 mg./2 ml. in single-dose ADD-Vantage® Vials, in packages of 25.

Exposure of the premixed product to excessive heat should be avoided. It is recommended the product be stored at controlled room temperature. Brief exposure up to 40°C does not adversely affect the premixed product.

'Tagamet' HCl (brand of cimetidine hydrochloride) injection premixed in single-dose plastic containers is manufactured for SK&F Lab Co. by Travenol Laboratories, Inc., Deerfield, IL 60015.

* ADD-Vantage® is a trademark of Abbott Laboratories.

BRS-TG:L73B Date of issuance Apr. 1987

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L. ASHLEY WHITESELL, M.D.

# Adolescent Health

Adolescence is defined as that developmental period between childhood and adulthood which is characterized by physical, sexual, and psychological maturation. Traditionally viewed as a time of golden opportunity, adolescence today is for many a time of peril to physical and mental well-being. Today both morbidity and mortality rates for adolescents are 11 percent higher than they were ten years ago. This increased risk has multiple origins. Areas such as substance abuse, sexuality and pregnancy, victimization, psychological disorders, suicide and violence, and trauma present special challenges and problems to adolescents. These are compounded by problems regarding the legal rights of minors. Young women between the ages of 12 and 17 who become pregnant and deliver babies are not entitled to sign consent forms for even the simplest of medical procedures. The legal rights of minors need to be reevaluated and better defined.

There is a feeling that these problems are somehow unique to metro areas with their concentrated areas of poverty. Yet studies have shown that they affect the entire spectrum of society. Poverty is the most profound and pervasive exacerbating factor whose consequences are deprivation and severe stress on the parent-child relationship. Nonetheless, although poverty often intensifies the dangers of childhood and adolescence, adequate income and high social status do not guarantee healthy growth and development. Alcohol and drug abuse, accidents, suicides, and a host of health problems are plentiful in middle-class and highly privileged populations. These problems are compounded by the fact that there has been a major shift in resource allocation in this country from the younger toward the older end of the population.

The AMA has published a white paper on adolescent health (see related interview, page 123). It nicely outlines the problems of adolescence and gives much statistical and bibliographical material for resources. Copies may be obtained from the AMA or from the MMA office. I recommend it to all of you who have an interest in adolescent health problems.

**Although poverty intensifies the dangers of childhood and adolescence, adequate income and high social status do not guarantee healthy growth and development.**

For resources closer to home, we can look to the MMA Auxiliary. Carol Damberg, our MMA Auxiliary president, informed the Board of Trustees at its January meeting that adolescent health care is the auxiliary's major health education project for this year. The multiplicity of problems that affect adolescent health demand a multiplicity of approaches to solutions. Many local community groups—schools, churches, social agencies, and community service clubs—are involved with adolescents. MMA committees on maternal and child health and public health, and the pediatric society also are dealing with these issues.

PHOTO COURTESY OF PLANNED PARENTHOOD OF MN

The auxiliary is an excellent group to bridge the gap between the state and local societies and the local community groups. We at the MMA stand ready to assist in any way we can to help solve these problems. An article by Drs. Barbara Yawn and Roy Yawn in this issue of *Minnesota Medicine* on teen-age sexuality education in rural Minnesota is an outstanding example of how doctors can help solve the problem by educating adolescents in their communities while educating physicians about adolescents' needs. We would all do well to take their lead.

**Anderson** from page 122

teachers at St. Stephen's School on 22nd and Clinton. I had slides from Africa showing children on the backs of other little children who were their primary caretakers. This faculty told me: "Dr. Anderson, that's our major problem right here in Minneapolis."

MM *The AMA has released a white paper on adolescence indicating that adolescents' health has deteriorated by 20 percent in the last 20 years because of drugs, poverty, neglect, and other factors.*

*Yet pediatrics remains a neglected stepchild of the specialties. Mayo Clinic, for example, in its expansion to Jacksonville and Phoenix, did not choose to have pediatrics departments as part of those branches. What does that indicate to you?*

ANDERSON First, you must realize that I think the Mayo Clinic is probably the finest and the most experienced health service organization of any that I know. I am sure that when Mayo expanded into Florida and Arizona, they seriously considered the service needs of those areas.

I also know that cities like Phoenix and Jacksonville have many children in poverty.

The fact that the Mayo Clinic chose not to have pediatrics there means that the current economic determinants in health care services were not there for pediatrics. In other words, we know that we're living in an economic-driven culture, and the economics of pediatric care just didn't justify our finest management organization's putting those services in these areas.

MM *It seems to me that it's hard to assemble a critical mass of technological talent and pediatric subspecialties to serve children. Partly this is because there aren't a large number of pediatricians—there are only 500 in Minnesota. Has that been your experience?*

ANDERSON Yes; as an example, we have only one child cancer case compared with a hundred adult cases. So we have large oncology wards at the University of Minnesota and at Metropolitan-Mount Sinai Medical Center and Abbott Northwestern and at Methodist Hospital and maybe several other hospitals in Minneapolis. Yet, we have so few children with this problem that we can have only one oncology service for children in Minneapolis. We have the same issue with cardiology. We can almost predict how many children in Minnesota are going to have congenital heart disease—so few requiring heart service that we can justify only one such service in Minneapolis.

MM *Let's switch to the outpatient arena. In Minnesota we have a higher market penetration of HMOs than any other state in the country. How has this affected the lives of Minnesota pediatricians and Minnesota children?*

"I've lived with my mom and dad for 13 years. But we've only been a family for a little while."

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I lived there a few weeks. But my family came out a lot. Not just to visit, but to work on our problems with me. And I saw my doctor too, just like when I was at home. Before too long, I was able to go home with my mom and dad. Together.

The hard work's not over. But thanks to my doctor telling us about RiverWood Center, there's something in our house now that was never there before. Hope. And lots of love.

If you want to know more about RiverWood Center, give them a call. Maybe you can help someone the way my doctor helped me.

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**ANDERSON** That depends on the HMO. If the HMO's policies for children are determined by somebody who's informed about child growth and development, the children and the pediatricians thrive. On the other hand, if the HMO's policies for children are determined primarily by people who are knowledgeable about adult care and are not knowledgeable about the subtle medical differences of children and do not have a knowledge of growth and development in children, the HMO's policies are devastating for Minnesota children and pediatricians.

**MM** *I've observed in HMOs like Group Health that pediatricians are a contented group of specialists. With perhaps 50 of them, pediatricians have the critical mass to launch some innovative programs, such as preventing prematurity. That's a positive side, isn't it?*

**ANDERSON** Group Health is a fine example of knowledgeable pediatricians making professional decisions for children. Group Health has a long history of fine professional administration, and it's been able to attract a group of qualified pediatricians. But generally in health services, pediatrics is such a minority that the pediatricians and people knowledgeable about pediatrics and child growth and development are not in the decision-making positions. So the children suffer.

**MM** *Is pediatrics the neglected stepchild of the specialties? On income charts you generally have the lowest incomes, you have difficulty getting the attention of the bureaucracy, and the federal government has not been generous in its Medicaid policies toward children. Is this my own paranoia?*

**ANDERSON** No, this is the case because children are not represented in the councils of decision making in our country. Pediatricians' objective has not been the welfare of the pediatrician. The American Academy of Pediatrics' primary objective has been child welfare. Children are a minority who are not represented. Children don't vote, children don't have any money. And if pediatricians are advocates for child welfare rather than for pediatrics as a specialty, the consequences are what you have described.

**MM** *Yet pediatricians make fine managers. Maybe it's because they have a different type of social and managerial thinking.*

**ANDERSON** I think that's true. Pediatricians, if they're going to be effective for children, have to work through other people. Management is about working with other people to get a job done. Pediatricians develop a therapeutic alliance with a child's family. They work through the family members, they work through high school coaches, and through Boy Scout leaders. Many pediatricians are, by the nature of their practice, effective managers. Many deans of medical schools come up through the pediatric route.

**MM** *The dean of my medical school, Dr. Wilburt C. Davison, was a pediatrician. Indeed, he was famous for his book,* The Compleat Pediatrician. *On another level, pediatricians are closer to the community too, are they not?*

**ANDERSON** You are if you're going to be a good pediatrician. The way the community accepts and works with the child who has special needs has a tremendous effect on whether that child is going to grow up to be a person who is good for society. Pediatricians choose to help those children whose needs are the greatest. Children have chronic diseases, children have handicaps, children have acute life-threatening diseases, and children come from emotional environments filled with anxiety.

**MM** *How has pediatrics changed in the last 20 years?*

**ANDERSON** Twenty years ago, the practicing pediatrician was a generalist who took care of heart disease, cancer, and allergies. We did everything; we even gave chemotherapy to the kids with cancer.

The big change in pediatrics has been the development of a large group of subspecialties in pediatrics—allergy, oncology, hematology, neurology.

Twenty years ago, a pediatrician was also a pediatric neurologist. A tremendous amount of our practice had to do with pediatric neurology. Twenty years ago, we started a group interested in children who had special learning difficulties. There were six of us. Now if you were going to call a meeting of the people in Minneapolis interested in special education, 600 people would show up.

So, we in pediatrics were involved in a lot of behavioral issues. We were social workers, we were child psychologists, and we practiced psychiatry. Now special clinics have been organized for those children with particular and special problems.

A pediatrician today has a much more difficult time knowing just exactly what his niche is.

**MM** *Subspecialties flower when technology blooms. I'm thinking specifically of care of the premature infants and of the technology and expertise that care entails. Many of these premature children come from poor families and their care has been very expensive. Has that been a problem for Children's Hospital?*

**ANDERSON** That's a major financial problem for children's hospitals across the country, and it has caused them to run major deficits. Fortunately, these hospitals have been working on this problem over the last five years. From a funding standpoint, administrators have been doing a good job. They've got much better funding. In Minnesota, for instance, in the last year we passed a special bill to help take care of this situation. There's no question that the incidence of prematurity and of neonatal complication is much higher among disadvantaged children. The farm crisis in Minnesota made this worse. In times past, families from rural areas usually had funding for neonatal care. Today, many of those children come without any funding and have to be taken care of. This care has run into millions of dollars a year. This money has been raised by donations and a lot of belt tightening. But the worst is over now, and things are better.

MM *What major things would you like to see happen that would improve the lot of children in Minnesota and in the nation as a whole?*

ANDERSON Our country needs to change its attitude—to regard children as a national treasure for the future. I think we need to recognize that a family is the best environment in which a child can develop. In America, we do not have the respect for family that many European countries and Canada do. They recognize the family by giving supplements to help raise children. The current value system of our country is reflected in how we deal with money.

MM *Are you suggesting that the government subsidize pro-family programs or offer incentives to day care centers?*

ANDERSON My answer is yes. My next answer would be that we ought to go to Canada and take a close look at their health service systems for children.

MM *What do they do specifically?*

ANDERSON Canada has a national health service for children. The American Academy of Pediatrics has given this a lot of study. The academy has taken these positions: every child should have access to competent child care, and preventive child care should be made available and, if necessary, subsidized for every child in this country.

These are major public programs that need to be put into place for children. In other words, I don't think we can depend on competition to provide good child health care. Children don't do very well in competitive situations because neither they nor their parents can afford to pay. Children have become expendable because they are not profitable.

MM *The children have fallen through the cracks.*

ANDERSON Children are falling through the cracks.

MM *In closing, perhaps I ought to point out that you have had ten children in your family. You speak from a position of authority.*

ANDERSON Yes, my wife and great partner in life, Rusk, and I have had an opportunity to run our own domestic laboratory to work through these pediatric management issues and problems.

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AIR FORCE

By Steven D. Carter, MMA Chief Executive Officer

# AIDS: What You Should Know as an Employer

Almost every employer in the United States will eventually have to deal with AIDS, either in a preventive or crisis manner.

Assuming that AIDS will eventually be classified as a protected disability or handicap for employees, what are your employer responsibilities?

Q *May an employer fire someone with AIDS because of economic concerns that the employee may soon be incapacitated?*

A No. Case law interpreting disability statutes generally rejects "future economic risk" arguments.

Q *May an employer force a person with AIDS to take a medical leave of absence?*

A No, unless the employee is physically unable to perform his or her normal work duties.

Q *May an employer deny employment to an otherwise qualified applicant with AIDS?*

A No, unless the disease is so advanced that the employee is incapable of performing the duties the job requires.

Q *May an employer ask job applicants whether they have AIDS or whether they have been exposed to the AIDS virus?*

A No. Disability statutes generally prohibit overly broad pre-employment inquiries that are not job related.

Q *May an employer require job applicants to take a blood test for AIDS?*

A Yes, if the test is part of a broad pre-employment physical required for *all* potential employees. It would be considered discriminatory to require only selected individuals to submit to a physical. If the employer decides not to hire someone who tests positive for exposure to the AIDS virus, it could be difficult to prove that the applicant was not discriminated against because of the test results.

Q *Is the employer obligated to tell employees if one of their coworkers tested positive for the AIDS virus?*

A No. The employer is not bound to disclose this information to other employees or anyone else. In fact, disclosure may compound the employer's legal and personnel problems. Employees may erroneously believe that their work environment has become unsafe and try to invoke federal labor relations acts that grant them the right to refuse to work in a perceived unsafe environment.

Q *What if employees refuse to work with someone who has AIDS?*

A Even though federal laws require employers to provide a safe working environment, it clearly would be discriminatory to resolve the conflict by isolating the individual with AIDS. Since all the available medical data indicate that AIDS is not contagious through casual contact, it is likely that the courts would uphold the rights of the person with AIDS. The employer should educate protesting employees about the minimal risk. If they still refuse to work with their infected coworker, the employer may threaten discipline and eventually replace them permanently.

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*Source*: Corporate Commentary, Fall 1986, Medical Benefits, Jan. 1987

# What Your Patients Should Know

While education efforts are teaching Americans about risk factors associated with exposure to the AIDS virus, misinformation about transmission of the virus remains a problem. Many people believe that a person could get AIDS by donating blood, sharing silverware, hugging, kissing, and other forms of general contact.

Your office is an ideal place for people to get information on AIDS and its transmission. Think about a simple information sheet for your patients that includes basic information to encourage patient questions. For example:

Q *What is AIDS?*

A A fatal disease that cripples the immune system, leaving the victim susceptible to illnesses the body can usually fight off, such as pneumonia.

Q *What causes AIDS? What are the symptoms?*

A AIDS is caused by a virus usually known as human immunodeficiency virus, or HIV. Symptoms of AIDS include a persistent cough, fever, and difficulty breathing. Multiple purplish blotches and bumps on the skin may indicate Kaposi's sarcoma, a cancer associated with

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AIDS. The virus can also cause brain damage.

Q *How can you get AIDS?*

A Mostly by having sex with an infected person or by sharing needles and syringes used to inject drugs. The virus, present in blood, semen, and vaginal secretions can be transmitted during sexual intercourse from a man to his sexual partner and from a woman to her partner. It can also be transmitted from a pregnant woman to her unborn child.

Q *Who runs the greatest risk?*

A Most cases have been in homosexual or bisexual men and intravenous drug users. A small percent of cases are among heterosexuals and persons who received blood or blood products. Most women with AIDS have been people with hemophilia or other blood disorders.

Q *What is the risk for heterosexuals?*

A The greater the number of sexual partners, the greater the risk.

Q *Can you get AIDS by shaking hands, hugging, social kissing, crying, coughing or sneezing? By French kissing? By eating food prepared by someone with AIDS? By an insect bite?*

A No, reported cases have not been transmitted in any of these ways.

Q *Can AIDS be transmitted by someone who is infected but doesn't show symptoms.*

A Yes. This is mainly how the AIDS virus is transmitted.

Q *What's the difference between being infected with the AIDS virus and having AIDS?*

A People infected with the virus can have a wide range of symptoms—from none to mild to severe. As many as half of those infected will develop AIDS within four to 10 years.

Source: U.S. News and World Report, Jan. 12, 1987; Medical Benefits, Jan. 1987.

# Minnesota HMOs Lose Money

Minnesota HMOs are losing money and the situation is getting worse. In the health care community, there is a general sense that HMOs must raise premiums to stay solvent and in business. To date, the competitive health care environment in Minnesota has probably underpriced health care benefits. That has been good news for large employers, but without increased premiums, bad news for health plans.

**TABLE**
Minnesota HMOs' profits (and losses).

| | 1985 | 1986 |
|---|---:|---:|
| Group Health, Inc. | $2,830.949 | $1,566.019 |
| Physicians Health Plan of Minnesota | 1,246,000 | 154,000 |
| Metropolitan Health Plan | 813,586 | 112,404 |
| Coordinated Health Plan | (721,565) | 97,141 |
| First Plan HMO | 20,332 | 84,083 |
| Mayo Health Plan | ** | 13,188 |
| Central Minnesota Group Health Plan | 222,826 | (126,886) |
| Senior Health Plan | (195,121) | (283,285) |
| Health Partners* | (192,436) | (304,154) |
| MORE Health Plan, Inc.* | (795,137) | (782,143) |
| SHARE Health Plan | 1,675,000 | (1,542,000) |
| MedCenters Health Plan | 155,158 | (1,622,618) |
| HMO Minnesota | (594,782) | (1,739,573) |
| Aggregate profit (or loss): | $4,464,810 | ($4,373,824) |

*Declared insolvent or closed this year
**Not in operation during 1985
Source: Minnesota Department of Health, 1987. Reprinted in *Hospitals,* Nov. 1987. Reprinted in *Medical Benefits,* December 1987.

# States Provide Health Insurance to Uninsured

Many states are addressing the problems of the 31 million people who lack health insurance. Fifteen states have created special insurance pools for high-risk individuals who cannot obtain coverage in the private market. Some of these states are Illinois, Iowa, Maine, New Mexico, Montana, Oregon, Tennessee, and Washington. The state pools, called comprehensive health insurance associations, usually incur costs exceeding the premiums collected from beneficiaries. The costs above the premiums are typically paid through assessments on all health insurers doing business in the state.

Twenty-four states have expanded Medicaid eligibility to include additional coverage for pregnant women and children. A study by the National Academy of Sciences estimated that every additional dollar spent for prenatal care saved at least $3 by reducing the need for intensive care of babies born with physical or mental defects. As a result, officials in states such as Indiana, Minnesota, Florida, North Carolina, South Carolina, Arkansas, Mississippi, and West Virginia have improved their Medicaid prenatal health programs.

# NEWS CLIPS

## BLACK MONDAY FOR HMOS

For-profit health maintenance organizations lost millions of dollars in the stockmarket crash of October 19, 1987. The following statistics were reported by *American Medical News*: The stock of Maxicare Health Plans, Inc., dropped by $430 million. U.S. Healthcare Inc., worth $339.9 million, dropped more than $40 million. United HealthCare Corp., worth $91.8 million, lost more than $15 million, and HMO America, worth $43.1 million, lost more than $10 million.

## UNITED HEALTHCARE

United HealthCare Corporation, a nationwide owner and manager of HMOs, announced that it will take a pretax charge of $15.3 million against third-quarter earnings, resulting in a loss for the quarter and for the full year. The charge was attributable to the closing and write-off of various marginal and unprofitable operations. At the same time, the company announced that Warburg, Pincus Capital Company, L.P., will purchase $10 million of newly issued voting preferred stock that is convertible into common stock. Warburg will also be issued warrants to buy 2.2 million common shares. Warburg currently owns 300,000 of the company's 15.7 million common shares outstanding.

*Source*: Healthspan, Dec. 1987.

## PROSPECTIVE PAYMENT FOR MEDICAID?

The Department of Health and Human Services will propose implementing a prospective payment system for Medicaid for FY 1989. Under the revised system, states would receive block grants on the basis of a new payment formula that would shift funds from states that currently have liberal Medicaid programs to those in which eligibility and payments are more tightly controlled. States would be given more flexibility and would be able to redefine "medically needy." It would also enable states to require that recipients use designated providers, to require family contributions, and to place liens on the homes of nursing home residents.

## HCFA REGULATORY REVIEW

HCFA has announced plans to propose regulations requiring that HMOs with Medicare risk contracts hold coordinated open enrollment periods in geographic areas that encompass two or more organizations. In addition, rules will reflect HCFA's right to bring an action directly against certain third parties for Medicare recovery.

## UMHC CANCER SUPPORT GROUP

A support group open to cancer patients and their families has begun at the University of Minnesota Hospital and Clinic. University Hospital Oncology Program for Everyone (UHOPE) will offer eight informational and support sessions each month. Program sessions are offered for adults, adolescents, and children. Sessions are free and are held each Tuesday, Wednesday, and Thursday from 3:30 to 4:30 p.m. and Wednesday from 6:30 to 7:30 p.m. in the seventh-floor family lounge of the University Hospital, Harvard Street and East River Road in Minneapolis.

For more information, call (612) 626-5133 or 626-3993.

## HEART DISEASE TAKING ITS TOLL

In a single year, diseases of the heart and blood vessels kill far more Americans than died in World Wars I and II and the Korean and Vietnam wars, according to American Heart Association statistics.

During the four major wars of this century, 636,282 Americans were killed. In 1985, the last year for which there are accurate figures, 991,332 Americans died of heart attacks, strokes, and other blood-vessel diseases.

The second-leading cause of death in 1985 was cancer, which took 457,670 lives. Stroke was third, killing 152,700. Other main causes of death included accidents, 92,070; obstructive pulmonary diseases, 74,420; and pneumonia and influenza, 66,630.

## MOVING UP

Del Ohrt, M.D., has been promoted to vice president of Blue Cross and Blue Shield of Minnesota after serving one year as the organization's medical director. He is a pathologist and worked with the Laboratory of Clinical Medicine in Mankato for 13 years before he joined Blue Cross and Blue Shield in 1986. He served as chairman of the Board of Trustees of the Minnesota Medical Association from 1983 to 1985.

## RISE IN TEEN SUICIDE

Minnesota's teen-age suicide rate in 1986 was almost twice as great as in 1985 and three times the rate in 1984, the state Health Department reported in January.

Seventy-seven teenagers age 15 to 19 took their lives in 1986, the latest year for which figures could be verified, compared with 43 in 1985. The state's suicide rate in that group increased from eight per 100,000 in 1984 to 13 in 1985 and to 24 in 1986. Incomplete data indicate the 1987 pace will be about equal to 1986.

While suicide rates for Minnesota's population as a whole have remained fairly stable since 1950, the teen-age rate has increased steadily, with an unusually sharp rise since 1980. The 1986 teen-age rate was nearly twice the rate for the total population.

## HEALTHY CITIES

Minneapolis-St. Paul, Milwaukee, Pittsburgh, and Boston are among the 10 healthiest areas to live in the nation, according to two Oregon researchers.

Carl Abbott, a professor of Urban Studies and Planning at Portland State University, and Joan Starker, an urban studies graduate student, relied on statistics from the U.S. Bureau of Census, federal health agencies, and private health organizations to weight 12 factors equally to compile their list: alcohol consumption, legislation that limits smoking in public places, the opportunity for regular exercise, air quality, pollen count, access to the outdoors, cancer rates, the rate of violent crime, traffic deaths and accidental deaths, the availability of hospital beds, and the number of physicians per capita.

## PHARMACISTS AND HMOS

Health maintenance organizations are getting into the retail drug business in a big way, according to Arthur D. Little Inc. The management consulting firm predicts that in-house HMO pharmacies will corner 19 percent of the market by 1995, up from 6 percent this year. And HMOs without pharmacies are increasingly pressuring drugstores not only for price concessions but for such services as patient drug and allergy profiles, home delivery, and after-hours consultation with enrollees.

## GROWTH OF GROUP PRACTICES

The growth of group practices with eight or more physicians is expected to accelerate. SMG Marketing Group Inc., Chicago, predicts there will be at least 5,000 such groups by 1992—up from about 1,700 today. This growth is expected to take away much of outpatient business from hospitals. Groups already offer X-ray and other imaging services and have in-house labs and pharmacies.

## COMPASSION FOR AIDS PATIENTS

A recent Gallup Poll suggests that more Americans are expressing support for the civil rights of AIDS patients. That 99 percent of the people polled had heard of AIDS also shows the highest level of awareness about an illness that any Gallup poll has ever found. Eighty-seven percent of those people polled thought AIDS patients should be treated with compassion, as compared with 78 percent in July 1987; and 64 percent believed employers have no right to fire people because they have AIDS, compared with 43 percent in July. Nearly two-thirds of the people interviewed in the poll said they would willingly work with an AIDS patient.

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**Description:** Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubaceae and related trees. Also in Rauwolfia Serpentina (L) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

**Action:** Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalmic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

**Indications:** Yocon® is indicated as a sympathicolytic and mydriatric. It may have activity as an aphrodisiac.

**Contraindications:** Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

**Warning:** Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

**Adverse Reactions:** Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.[1,2] Also dizziness, headache, skin flushing reported when used orally.[1,3]

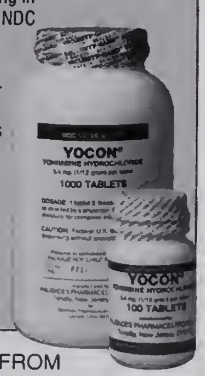
**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence.[1,3,4] 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to ½ tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.[3]

**How Supplied:** Oral tablets of Yocon® 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

**References:**

1. A. Morales et al., New England Journal of Medicine: 1221. November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

Rev. 1/85



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# CME IN MINNESOTA

## Provided through the MMA Medical Education Subcommittee on CME Resources

For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; (612) 378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

## MARCH 1988

2-4 **Sixth Annual Critical Care Update: An Interdisciplinary Approach to Managing the Critically Ill Patient** St. Paul-Ramsey Medical Center/Ramsey Clinic; Holiday Inn Town Square, St. Paul, Minnesota. CONTACT: Kathleen Fritz, Registrar, CME, Ramsey Foundation, 640 Jackson Street, St. Paul, Minnesota 55101.

7-11 **Medical Update 1988** Office of CME, University of Minnesota; Sister M. Innocent Hughes Education and Conference Center, Ft. Lauderdale, Florida. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

11-12 **Pediatric Update** Park Nicollet Medical Foundation; Naegele Auditorium, Park Nicollet Medical Center, Minneapolis, Minnesota. CONTACT: Elaine Anderson, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3703.

14-16 **Gynecologic Surgery - 1988 Update** Mayo Clinic/Mayo Foundation, Wyndham Hotel, Palm Springs, California. CONTACT: Rita Kunz, 200 First Street SW, Rochester, Minnnesota 55905; (507) 284-2509.

21-25 **Geriatric Medicine Review** Office of CME, University of Minnesota; Health Sciences Center, University of Minnesota, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

26 **Minnesota Society of Anesthesiologists Spring Scientific Program** Minnesota Society of Anesthesiologists; Marriott Hotel, Bloomington, Minnesota. CONTACT: Doug Koehntop, M.D., University Anesthesiologists, P.A., Box 294, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 624-6977.

## APRIL 1988

7-8 **Allergy and Clinical Immunology** Office of CME, University of Minnesota; Mayo Auditorium, University of Minnesota, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

8 **Fourth Annual Duluth Health Conference** The Duluth Clinic, Ltd. and St. Mary's Medical Center; Fitger's Spirit of the North Theater, 600 East Superior Street, Duluth, Minnesota. CONTACT: James G. Brueggemann, M.D., 400 East Third Street, Duluth, Minnesota 55805; (218) 722-8364, ext. 179.

8-9 **The Traumatized Child** Abbott Northwestern Hospital; Marriott City Center Hotel, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

11-12 **Medical Retina Update** Office of CME, University of Minnesota; Holiday Inn Downtown, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

11-13 **Bone and Soft Tissue Tumors Course** Mayo Clinic/Mayo Foundation; Hyatt Orlando, Orlando, Florida. CONTACT: Rita Kunz, 200 First Street SW, Rochester, Minnesota 55905; (507) 284-2509.

14-16 **Pediatric Days** Mayo Clinic/Mayo Foundation; Mayo Clinic, Rochester, Minnesota. CONTACT: Rita Kunz, 200 First Street SW, Rochester, Minnesota 55905; (507) 284-2509.

15 **Reproductive Ethics: Beyond Baby M** Office of CME, University of Minnesota; Radisson University Hotel, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

15-16 **11th Annual Update in Clinical Cardiology** Abbott Northwestern Hospital; Radisson Plaza Hotel, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

19 **Hematology in Physician Office Laboratories and in Clinics** Office of CME, University of Minnesota; Health Sciences Center, University of Minnesota, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

19 **Obstetrics-Gynecology-CME** Mesabi Regional Medical Cetner; Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746; (218) 262-4881.

22-23 **Colorectal Diseases** Office of CME, University of Minnesota; Holiday Inn Downtown, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

## MAY 1988

**2-6** **Family Practice Review: Update 1988** Office of CME, University of Minnesota; Radisson Hotel South, Bloomington, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

**5-6** **General and Peripheral Vascular Laser Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

**14-15** **Laser Surgery in Dermatology** Office of CME, University of Minnesota; 3-110 MoosT, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

**17** **Gynecologic Oncology** Office of CME, University of Minnesota; Radisson University Hotel, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

**18-20** **Radiation Therapy** Office of CME, University of Minnesota; Mayo Auditorium, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

**18-31** **Spain and Portugal** North Central Medical Conference. CONTACT: Harold Brunn, North Central Medical Conference, 1845 Hampshire Avenue, Suite 200, St. Paul, Minnesota 55116; (612) 698-1818.

**20-21** **Cardiovascular Medicine** Park Nicollet Medical Foundation; Naegele Auditorium, Minneapolis, Minnesota. CONTACT: Elaine Anderson, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3703.

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**Cardiologist, St. Cloud, Minnesota** needed for referral practice in central Minnesota. As a part of a 20-person group of specialists and subspecialists of internal medicine, a fourth cardiologist is needed for expanding services of heart surgery program, PTCA, and outreach. Need to be American university-trained with full non-invasive and invasive capabilities. Special PTCA or nuclear cardilogy skills desirable. St. Cloud is a rapidly growing, family-oriented community one hour north of Minneapolis/St. Paul offering many cultural and outdoor recreational opportunities. Please contact: W. Ben Johnson, M.D., at (612) 255-5706 or send CV to: The St. Cloud Clinic of Internal Medicine, Ltd.; 1200 Sixth Avenue North, St. Cloud, Minnesota 56301. 3-3/88

**Family Physician** to join three-physician practice. Beautiful community bordered by the North Shore of Lake Superior and the Boundary Waters Canoe Area. Negotiable income, with incentive. Excellent benefits. Flexible hours, share call. Available summer, 1988. Send CV with references to: Rita M. Plourde, Cook County Community Clinic, Grand Marais, Minnesota 55604; (218) 387-2330. 3-3/88

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**Green Bay, Wisconsin:** 28-physician multispecialty group seeking BC/BE physicians in the following specialties: Family Practice, Pulmonology, Pediatrics, ENT, and Anesthesiology. Green Bay is a progressive community with an easy lifestyle, ample outdoor activities, excellent schools and cultural activities. The clinic offers competitive salary and excellent fringe benefits. Please send CV to: P.M. Kindrachuk, Administrator, West Side Clinic, s.c., Box 19070, Green Bay, Wisconsin 54307-9070. 4-4/88

**Unsecured Signature Loans For Physicians:** $5,000-$60,000. No points or fees. Best rates-level payments. Up to six years to repay. For information and application call toll free 1-800-331-4952, MediVersal, Department 114. *4-4/88

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**Lot For Sale:** Ultra-secluded 2-acre wooded lot in Eagan, $75,000, call Doug at 557-0314. (R)

**Busy, Multispecialty Clinic Seeking Second Pediatrician:** Excellent location, salary, benefits, etc. Contact: Richard Moore, Administrator, or Randall Warren, M.D., at Mork Clinic, PA, 1833 Second Avenue South, Anoka, Minnesota 55303; (612) 421-3680. 3-3/88

**Internist BE/BC** with or without subspecialty training to join 6 other internists in 17-member multispecialty clinic in Worthington, Minnesota. Liberal vacation and meeting time including stipend. Contact: K.A. Towne, M.D., or John J. Sieve, Administrator, Worthington Medical Center, PA, Worthington, Minnesota 56187; (507) 372-2921. 3-3/88

**For Sale: General Practice** Roseville area. Includes office equipment and leased office space for 1-2 doctors. Call after 6 p.m. for more information (612) 633-9093. (R)

**Family Practitioner:** Immediate opening for seventh BC/BE FP to join growing 17-M.D. multispecialty clinic. NO CAPITATION. Two hours from Twin Cities. No practice start-up costs. Located in an area of beautiful lakes and trees, and ideal for raising a family. Call collect or write: Curtis J. Nielsen, (218) 829-0354 or 829-4901, PO Box 524, Brainerd, Minnesota 56401. 4-3/88

**Internal Medicine:** Immediate opening for sixth BC/BE IM to join growing 17-M.D. multispecialty clinic. NO CAPITATION. Two hours from Twin Cities. No practice start-up costs. Located near beautiful lakes and trees. Ideal for raising a family. Call collect or write: Curtis J. Nielsen, (218) 829-0354 or 829-4901, PO Box 524, Brainerd, Minnesota 56401. 4-3/88

**Family Physician** to join the medical staff of two family practitioners in a well-established, growing clinic in central Minnesota, along the southern shores of beautiful Mille Lacs Lake. Excellent sub-specialty support, progressive salary and fringe benefit program. Call collect, (612) 676-3661, or write c/o Nancy Swenson, Clinic Manager, Mille Lacs Family Health Center, PO Box 53, Isle, Minnesota 56342.5-4/88

**Family Practice Opportunity:** Two-doctor clinic to add third family practitioner, summer of 1988. Shared call with 9 family practitioner-affiliated clinic. Close specialty back-up. 288-bed facility. 6,000 population community in northwest Twin Cities suburb. Competitive Twin Cities' area salary and excellent benefits. If interested, contact: Dr. James Walker at (612) 421-3680 (office), or 427-5704 (home) or Mr. Richard Moore at (612) 421-3680. 6-5/88

**Internist BE/BC** to join two young internists in growing practice in Michigan's beautiful Upper Peninsula. New local hospital. Campus for Michigan State University Medical School. Community of 15,000. Send CV or call: Drs. Spender and Kuehnl, 218 South 10th Street, Escanaba, Michigan 49829; (906) 786-1563. (R)

**Southwestern Minnesota Community** of 1,500 is seeking a primary care physician to join another physician in an active family practice (non-HMO) clinic. A 17-bed hospital and 41-bed intermediate care nursing facility are located within the community. Excellent location and potential for personable, aggressive individual in a quiet, rural setting. Preferred BC/BE. Send inquiries to: Timonthy E. Nealy, M.D., Adrian Medical Clinic, Adrian, Minnesota 56110, (507) 483-2845; or Charlotte Heitkamp, Administrator, Arnold Memorial Hospital, Adrian, Minnesota 56110-0279; (507) 483-2668. (R)

**Family Physician** who enjoys obstetrics wanted to join a progressive family-practice-oriented group in Wadena, Minnesota. This is an excellent opportunity for a self-starter who enjoys work, as the clinical practice is busy. Beautiful area, great community for family. For details contact: Dr. Tim Schmitt, (218) 631-1360, or James Lawson, Administrator, Tri-County Hospital, Wadena, Minnesota 56482; (218) 631-3510. (R)

**Pediatrician** wanted to join a 40-physician multispecialty group in northern suburbs of Minneapolis. The appropriate candidate will join the current Pediatric Department of four physicians in a very busy practice. Please address inquiries to: Bradford McKane, Comprehensive Medical Care, PA, 9055 Springbrook Drive, Coon Rapids, Minnesota 55433 or phone (612) 780-7032. (R)

**Family Physician** to join group of board certified family practitioners and one board certified general surgeon. Liberal vacation and education allowances. Competitive salary first year with incentive bonus and full membership after one year. Blue Earth is a community of 4,000 in southern Minnesota with a drawing area of 25,000. 43-bed hospital with adjoining clinic facilities. Complete ancillary support including anesthesiology, radiology, and pathology. Excellent opportunity for an aggressive young family physician. Please contact: Thomas E. Watts, M.D., Blue Earth Medical Center, Ltd., 520 South Galbraith, Blue Earth, MN 56013, Phone: (507) 526-7371, Personal Phone: (507) 526-3177; Marjeane Werner, Clinic Administrator, Phone: (507) 526-7371, Personal Phone: (507) 854-3682. (R)

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**Family Practice For Sale:** Ideal location in outer metropolitan Twin Cities area. Includes X-ray, modern lab, and all ancillary equipment, which is in excellent condition. Reasonably priced. Ideal situation for family physician who wishes to take over existing practice and enjoy immediate patient load and income. Practice easily expandable, if desired, in this rapidly growing area. Write: Minnesota Medicine (816), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. (R)

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**Twenty-nine Physician Multispecialty Clinic** located in desirable east-central Wisconsin location is seeking board certified or board qualified orthopedic surgeon to round out its services. Lab, X-ray, excellent hospital. Liberal quarantee and benefits. If interested, contact: D.F. Sweet, M.D., Fond du Lac Clinic, S.C., 80 Sheboygan Street, Fond du Lac, Wisconsin 54935. (R)

**Family Physician Sought** to join a group of five board certified family physicians practicing in a city of 3,500 population in the beautiful Minnesota River Valley. New hospital with new attached clinic and satellite locations with the very latest in equipment. Very busy, growing practice. Contact: D. Carter, M.D., (612) 564-2511 (office), (612) 564-4409 (home), 295 Tenth Avenue, Granite Falls, Minnesota 56241. (R)

**Family Practice:** We are in need of two family practice physicians, preferred board certified, to cover expanding service area. Sandstone Area Hospital/Nursing Home is a 30 bed acute and 86 bed long-term care facility with the newly constructed Sandstone Clinic located next to the facility staffed by two full-time physicians. Sandstone is located in Northeast Minnesota's heartland, providing rich recreational activities, excellent salary and incentive pay, liberal call schedule. For more information, call/write: James G. Blum, Administrator, Sandstone Area Hospital, 317 Court, Sandstone, Minnesota 55072; (612) 245-2212. *(R)

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**Family Physician:** Twin City convenience care center seeking full-time or part-time family physician to provide care for minor emergencies and illness. Competitive salary. Send CV to: Richard M. Gebhart, M.D., Grove Square Convenience Care, 13800 83rd Way, Maple Grove, Minnesota 55369; or call (612) 420-5822 days or (612) 420-5279 evenings. 7-4/88

**Family Physician/Emergency Room:** Full-time salary working weekends, primarily emergency room. Flexibility available. Falls Medical Center, PA, 105 Shorewood Drive, International Falls, Minnesota 56649. Please contact: A. Johnson, M.D., or A. Marc Gorden, M.D., at (218) 283-9431 for more information. (R)

**Family Practitioner, General Internist, and General Surgeon** to join 8-physician clinic in Cloquet, Minnesota, a community of 14,000 (30,000 service area), located 20 minutes from Duluth-Superior. The clinic facility is located one block from modern, well-equipped hospital. Cloquet enjoys a stable economy (forest products). Additionally, our community is noted for its excellent school system. First-year salary guarantee, paid malpractice, health and disability insurance, vacation, and study time. Contact: John Turonie, Administrator, Raiter Clinic, Ltd., 417 Skyline Boulevard, Cloquet, Minnesota 55720; (218) 879-1271. (R)

**Family Physician** needed to replace retiring partner in thriving 3-FP full-service practice in Starbuck, Minnesota, on the state's thirteenth largest lake. Good hunting and fishing. Modern nine-year old hospital. Twenty miles to University Campus. Call or write: Robert Bosl, M.D., Starbuck Clinic PA, Starbuck, Minnesota 56381; (612) 239-2231. (R)

**Internist** needed to join well-established practice in a community of 45,000. First-year salary guarantee with excellent fringe benefits. Contact: Diagnostic Center, 304 Belle Avenue, Mankato, Minnesota 56001; (507) 388-1655. (R)

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**General Internist:** 14-member primary care group with 10 family physicians and one internist, surgeon, pediatrician and Ob/Gyn, requires a Board Certified general internist to continue to develop a primary and consultative internal medicine practice in Marshall, Minnesota, affiliated with Willmar Medical Center. USUAL CHAMBER OF COMMERCE CLAIMS *NEARLY* TRUE HERE! Contact: C. Paul Martin, M.D., Doctors' Plaza, Marshall, Minnesota 56258; (507) 532-9631 or send CV and references to John Merickel, M.D., Affiliated Medical Center, 101 Willmar Avenue, Willmar, Minnesota 56201. 4-4/88

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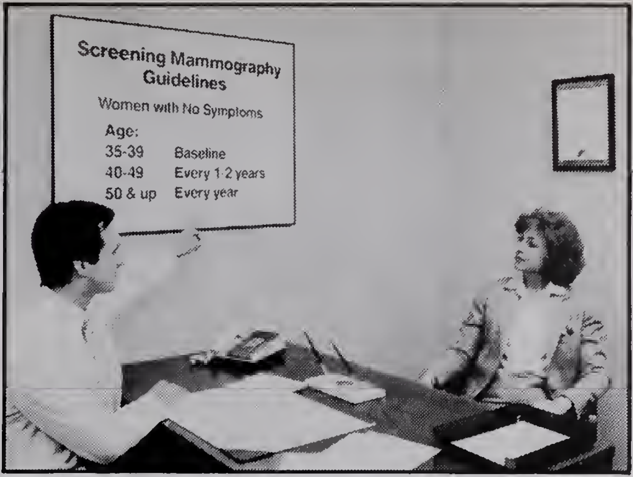

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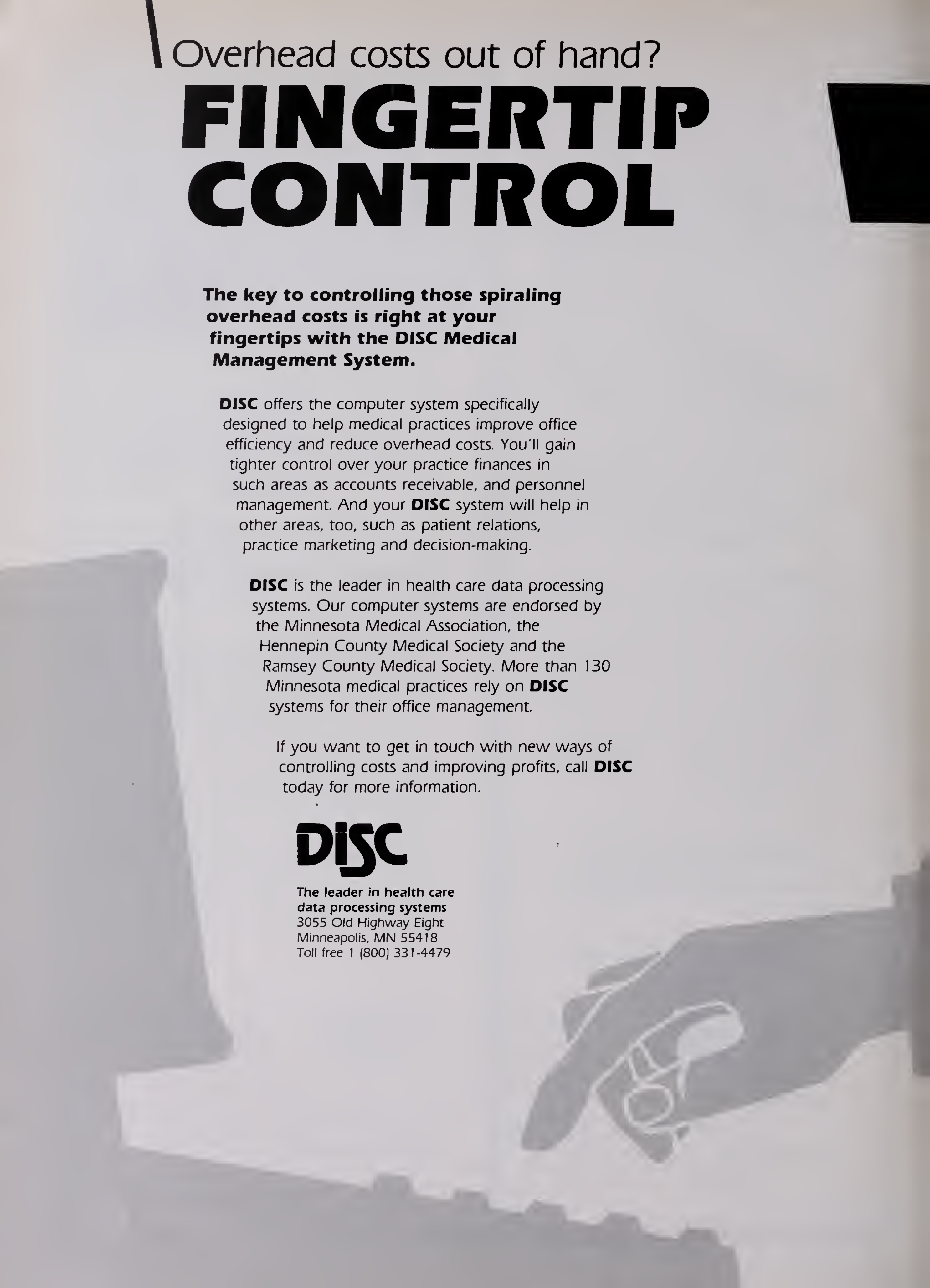

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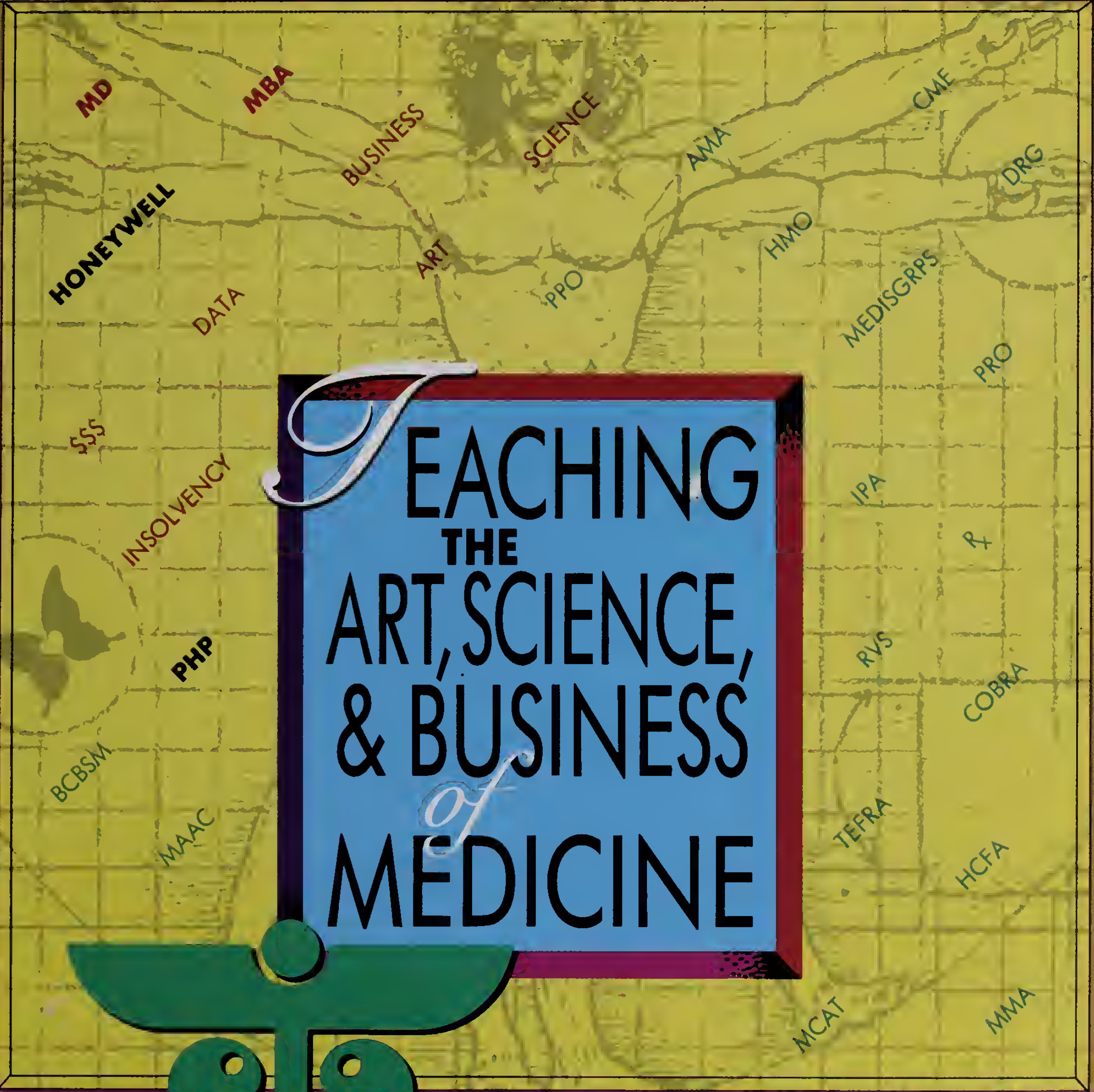
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A JOURNAL OF CLINICAL AND HEALTH AFFAIRS

# MINNESOTA MEDICINE

APRIL 1988

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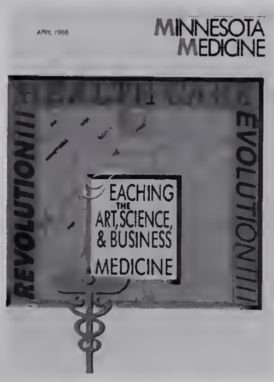

## Cover Design

**The Art, Science, and Business of Medicine** This month's cover illustrates the evolving language of medicine—to the language of the medical marketplace. Still, as many people point out in this issue, a special mix of art and science is what good doctoring is all about. Cover design by Jane Eschweiler, Bolger Publications/Creative Printing.

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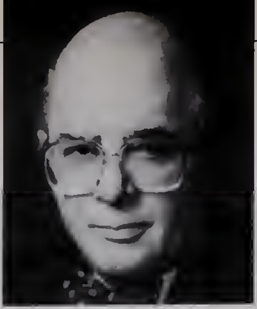


RICHARD L. REECE, M.D.

## EDITOR'S NOTEBOOK

# Balancing the Medical Market and Physician Contentment

How can you keep the medical marketplace and physicians happy at the same time?

If you're not an ostrich, you will realize this is an issue being fought on multiple fronts right now.

■ It is being fought on the PHP-United HealthCare contract front. Although the PHP and United HealthCare officials have agreed not to discuss their negotiations, everybody knows the survival of PHP may hinge on the outcome. According to Paul Ellwood, the basic problem is that PHP has too many doctors and not enough patients, ergo: PHP must shed physicians to pay those remaining enough to keep them content. George Halvorson, president of Group Health, doesn't agree. He thinks there's room for increased PHP physician fees. For the view of Dr. K. James Ehlen, the new acting chief executive of PHP, you'll have to read his interview in this issue of *Minnesota Medicine*.

■ It is being fought at the Honeywell Corporation. Honeywell has decided it will deal only with hospitals, physicians, HMOs, or PPOs who meet Honeywell's "specifications" on quality standards, data requirements, contract language, and management policy for case management and designated centers of excellence for certain cases. Whether physicians are "content" with these requirements makes not one whit of difference to Honeywell. One sore point in Honeywell's specifications, i.e., raw data on individual physicians, flared out in the open in late February, when Blue Cross and PHP officials refused to release data on individual physicians. For more on the Honeywell philosophy, read this issue's interview with Dr. John Burns, Honeywell's vice president of health management.

■ It is being fought in the Minnesota State Legislature. The Minnesota Department of Health has drafted a bill that treats Minnesota HMOs like more traditional insurance companies. It asks them to set aside two months' premiums as reserves, requests them to make quarterly financial reports, asks doctors to give 120 days' notice before resigning, and has surviving HMOs guarantee coverage for those enrollees left high and dry by a bankrupt HMO. What the bill does is protect enrollees of failed HMOs; what it doesn't do is protect the physician and hospital creditors of failed HMOs. Indeed, these creditors must continue to provide care at no charge for specified periods of time, up to three months.

■ It is being fought between the Minnesota Department of Health and the Minnesota Department of Commerce. Michael Hatch, commissioner of commerce, whose ambition is to be governor, would like to have the HMOs under his wing, so he can "protect the public" by treating HMOs like any other insurance company. The Department of Health, which has always overseen HMOs, doesn't agree with Hatch. As for hospitals and physicians, they are both wary about being under the Department of Commerce's jurisdiction should an HMO fail and should Commerce have the power to set fees, assign patients, and make the rules.

■ It is being fought on the MedCenters-Park Nicollet Medical Center front. As you probably know, an arbitration board decided MedCenters should award Park Nicollet an 18 percent fee increase. The Minnesota Department of Health didn't like that answer, so its commissioner, Sister Mary Madonna Ashton, issued a cease-and-desist order that prevented that fee increase from taking place. Park Nicollet countersued. Anyone caught in the crossfire on this front, or attending the court proceedings, will tell you the stakes are high in this battle.

■ It is even being fought in the great halls of our medical schools, where educators debate the time and place to teach the business side of medicine—knowledge that many argue is essential to survival in today's medical marketplace. But others say their mission is to teach medicine, not Marketing 1001. For both sides of the debate, see this month's feature article, "Teaching the Art, Science, and Business of Medicine."

■ Finally, this issue is being fought on the pages of *Minnesota Medicine*. We have always maintained physician contentment is one of the factors that keeps the medical profession strong. It is true you can control physicians, contain them, corner them, and frighten or drive away the best and the brightest of them. But you will not execute these strategies without having them debated, discussed, or deciphered on these pages.

# One Man's Education—From PHP Critic to Acting CEO

**REECE** *In August 1987, after Minnesota state government officials intervened, a settlement was reached between the PHP Oversight Committee and Physicians Health Plan. In October, you became chairman of the Board of Directors of Physicians Health Plan of Minnesota. Now that you've held that position for four months, may I ask what you've learned?*

**EHLEN** That four-month period has been a remarkable learning experience on a number of fronts. It has forced me and the board to identify what role the new board will serve in directing PHP. We've found we need to set new policy for PHP. Clearly, old policy threatened to destroy the stability of the physician network. That was untenable. The fundamental goal of the new board is to maintain the company and at the same time explore ways to keep the physician community intact. The learning has come in thinking through exactly why the system is unstable, what mistakes were made, how we measure those mistakes, and how we correct them.

**REECE** *Why was the system unstable? Why were doctors leaving or threatening to leave?*

**EHLEN** There are a number of answers to that question. In part, physicians have to take some of the responsibility. In part, PHP is responsible because of its complacency following its eight years of success. It was a comfortable relationship, much like a marriage. As long as it was going along well, everybody was reasonably happy. But when a major problem developed, the feelings ran very deep and very strong.

The physicians could have anticipated, had they been more involved in the process, that we were on a course that would lead to a failure in our relationship with the company. At the same time, PHP management was not attending the needs of the physicians to the extent that it should have.

What doctors have needed, whether they know it or not, is reliable, workable information to help them understand what they're trying to do in medicine—deliver high-quality care while conserving resources.

Our initial attempt to conserve resources, both at the federal government level and in PHP and other health care agencies, has been to clamp down on utilization.

K. JAMES EHLEN, M.D.

But in a comfortable, nonthreatening relationship like the doctors had with PHP, there was often not a serious addressing of utilization review issues.

When 1987 came around and we were told that we did not con-

**Ehlen** *to page 228*

*Two years ago, a small but visible band of four physicians formed the PHP Oversight Committee. Eight months ago, the work of this small group culminated in a "settlement," achieved with help from Minnesota state government officials, between PHP and the PHP Oversight Committee. This settlement, among other things, resulted in three of the original "dissidents" being named to the current PHP board. Dr. K. James Ehlen was one of those "dissidents." Now, with the resignation of George Morrow, the PHP chief executive, both United HealthCare management and PHP management have agreed that Dr. Ehlen is the right man to become the acting CEO.*

*This interview took place just after Dr. Ehlen had learned of his new position. I've had the good fortune of observing Ehlen under fire at close quarters for two years. This latest twist didn't surprise me.*

*Why not? For one thing, he has a knack for seizing the big point in the big picture. For example, in this interview, he repeatedly talks about the "instability of the physician network." He knows full well if the "new" PHP doesn't perform, physicians may still bail out in massive numbers. Indeed, the "instability of the providers" is tied more closely to the reputation and solvency of Minnesota's entire HMO system than most would care to admit.*

*For another, he has the ability to juggle two conflicting and contradictory points of view in his mind at the same time, without getting rattled. To say that PHP physicians and previous PHP management saw the world differently would be a classic understatement. Finally, he has the capacity to learn the other person's point of view in the face of potential calamity.*

# A Physician Executive Speaks About Purchasing Health Care

**REECE** *Dr. Burns, you're vice president of health management for Honeywell Corporation. As such, you're the top medical executive for that corporation. You've been with Honeywell for seven years. Before that you were an internist specializing in nephrology in St. Paul; you were president of the Ramsey County Medical Society; and you were an officer of the Minnesota Medical Association.*

*Do things look different as a health care purchaser who pays doctors and hospitals than as a physician who spent the dollars caring for people?*

**BURNS** Things look very different. And they're changing so fast that if you blink it's possible to draw the wrong conclusions.

**REECE** *Do things look radically different now than seven years ago?*

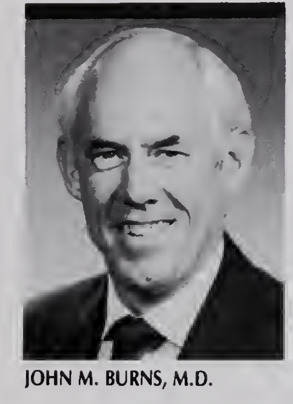
**BURNS** Very much so.

**REECE** *In what way?*

**BURNS** Business is becoming more aware it has to participate in health management. Physicians, hospitals and HMOs, PPOs, or hybrids, are continually attempting to either increase or maintain their market share. That makes the financial incentives of the system a very important driver of our expenses.

**REECE** *How much have Honeywell's health care expenses gone up in the last seven years?*

**BURNS** From 1978 to 1983 they rose over 19 percent per year. In 1984 they flattened out, but that was the first year of DRGs, and the inflation rate fell. Since 1984 they've begun to run up again, in the range of 12 to 15 percent at Honeywell. In the industry at large, inflation rates are close to 20 percent.



JOHN M. BURNS, M.D.

**REECE** *The Honeywell strategy, as I grasp it, is to contain costs; to limit the hospitals, physicians, and plans you deal with; and to be more selective in paying for high-cost procedures.*

**BURNS** The Honeywell strategy is to participate in the management of health care. That means selecting services on the basis of appropriateness and necessity. And because of that issue, which is a quality determinant, it will be necessary to exclude those physicians who do not conform to quality standards. That means the system will deal with fewer physicians.

**REECE** *And your definition of quality is what?*

**BURNS** I define quality as conformity to specifications.

**REECE** *Where does one find these specifications? Does Honeywell define them? Do doctors and hospitals? Do plans? Do you find them in the literature, or do you seek*

continued

*John M. Burns, M.D., vice president of health management at Honeywell Corporation, a company that spent $140 million on health insurance for its 54,000 U.S. employees in 1987, is trilingual.*

- *He speaks the language of medicine—"of physician-patient relationships" and of the physician as a "patient advocate"—for he practiced internal medicine and nephrology in St. Paul for nearly 20 years.*
- *He speaks the language of the medical marketplace—of "purchasers," of "providers," and of "consumers"—for he has spent seven years in top management at Honeywell.*
- *And he speaks the language of cost contol and quality control, of "conformance to standards," of "appropriateness and necessity," of "meeting specifications," of "selective contracting," and of "designated centers of excellence"—for he has devoted the last two years to helping Honeywell implement its policies to control health care costs and quality.*

*No matter what the language he speaks, Dr. Burns knows he is ushering in a tough new era in which everything counts—doctors, patients, price, specifications, and quality. More than anything else data counts—how individual doctors perform, how well employees' treatment works, what it cost, how many returned to work, and what bang did Honeywell get for its buck. So, if you are a physician who will be caring for those who work for corporations, read this interview and brush up on your language skills.*

*them out at leading medical centers?*

**BURNS** Because medicine is both art and science, you cannot define these specifications on a perspective basis for all possible health care encounters. But the medical literature will document that the appropriate application of medical interventions can be defined according to certain criteria. And it's those criteria that will form the base of specifications for the managed health care system.

**REECE** *Give me examples of what one can find in the literature.*

**BURNS** I shall give you a list:

► In January, a *New England Journal of Medicine* article appeared on the appropriateness of pacemaker insertion. At least 20 percent of those who had received pacemakers were found to have absolutely no appropriate reason for having had a pacemaker inserted.

► Other literature indicates that a certain percentage of coronary bypass procedures are not beneficial.

► Data indicate that a disturbingly high percentage—somewhere in the low 30s—of laboratory diagnostic tests are not medically necessary or appropriate.

► The American Medical Association has formed a technology assessment study group called DATTA, the Diagnostic and Therapeutic Technology Assessment study, which reviews certain procedures such as insertion of a gastric bubble for morbid obesity, which it has concluded is not appropriate technology. It has also looked at chelation therapy and concluded it's not appropriate.

The more you read the medical literature, the more you come across articles arguing that either specific diagnoses or the application of certain technologies are inappropriate and unnecessary.

**REECE** *What are the most expensive procedures or areas of care for Honeywell? How do you plan to curtail them?*

**BURNS** Unfortunately, we don't have complete data. The data we do have indicate a limited number of diagnoses account for a major portion of our costs. One percent of those cases accounts for 34 percent of total expenditures. Some of these are technology-dependent cases. But mental health problems occur with disturbing frequency and with institutional care of long duration. Plus, Honeywell dependents are heavily represented in that population. Other expense problems are cardiovascular conditions and technology-dependent respiratory care patients. We focus particularly on cases costing $10,000 or more.

We analyze our cases by cost zones—cases below $5,000, between $5,000 and $10,000, and above $10,000. Those above $5,000 account for 3 percent of cases and 50 percent of costs. Those above $10,000 account for 1 percent of cases and 34 percent of costs. Our future benefit plans will mandate that any case above $10,000 must be subject to review and case management.

**REECE** *What does "case management" mean?*

**BURNS** Case management refers to a comprehensive review by a team of health care professionals on the appropriateness and necessity of the care a patient is receiving. We further analyze the appropriateness of the care setting and the necessity of intervention.

We include the provision of additional benefits for a more appropriate care setting. An example would be that of a technology-dependent child who requires a feeding tube or respiratory care. It may be appropriate to get the child out of the hospital to minimize infection. It may be appropriate to pay for home health care, or even to pay one of the parents to stay home and take care of the child. That's case management. Part of it is determining the most effective and efficient site for care.

**REECE** *The words that recur in your language are "appropriateness" and "necessity." Are these words some kind of verbal signal to the medical community by Honeywell? In other words, you want doctors to know Big Brother is watching—and judging?*

**BURNS** Yes, physicians should be aware we're monitoring their performance. We define "necessity" as a health care intervention that in its absence the patient's health will not improve or will deteriorate. Unless this intervention occurs, the patient will not get better. "Appropriateness" refers to clinical judgment behind the appropriate therapy that is considered "best" for the patient. A fair amount of subjectivity comes into play here, but medicine is not pure science, it is an art, and you have to allow for the physician's judgment. Still, there are certainly inappropriate interventions or care settings that can be eliminated without jeopardizing quality or outcome.

**REECE** *You must be one of the most quoted corporate physicians in America. I've read quotes of yours in* American Medical News, *the* Wall Street Journal, *and the* New York Times *about the Honeywell approach to appropriateness and necessity of care, and also about the corporation's handling of certain high-cost procedures such as transplants, coronary bypass, and prenatal care. I believe you are directing transplants only to certain designated centers. Is this an important policy issue?*

**BURNS** It's an important issue because emerging technology and medical progress exist at their best only in only certain centers in the United States. In the development stage, experience is often confined to particular institutions. Data indicate these institutions have the best outcomes. Selective contracting that allows the application of emerging technology is appropriate for a company like Honeywell.

For organ transplants, we select designated centers of excellence—generally the centers with the best survival statistics. If Stanford can achieve an 85 percent one-year survival rate, or the University of Minnesota can surpass 90 percent, the procedures are no longer "experimental," and that's where our employees will go for high-intensity, high-technology care. We find those centers that do the most cases are the most efficient in terms of results and overall costs.

**REECE** *To sum up, then, you're a multinational corporation with 54,000 employees in the United States and almost 80,000 worldwide, and you send your cardiac transplant candidates to only certain centers. What are these centers?*

**BURNS** We now have relationships with Stanford, St. Louis University, Vanderbilt, the University of Minnesota, Pittsburgh, and the University of Arizona in Tucson.

**REECE** *Is this concept of carving out special procedures for selective contracting limited to transplants?*

**BURNS** At present it is, although we are now looking at cardiovascular coronary bypass surgery procedures, neonatal care, and high-risk pregnancy management.

**REECE** *So you're doing selective contracting for high-tech procedures. At the low-tech end of care, you're pushing disease prevention, health promotion, and patient education. Do you consider these "softer" approaches important too?*

**BURNS** Absolutely. Based on the Centers for Disease Control data on premature mortality as a function of lifestyle, and other information published by Control Data Corporation, we feel we have an opportunity and an obligation to our employees to provide educational and lifestyle modification programs to help them be the healthiest and most productive in the world and keep them out of the "illness system."

**REECE** *Along with that goes patient responsibility for their lifestyles and their health care costs. You've also, at least in your Minneapolis plant, introduced copayments and deductibles to nonunion employees. In a sense, you're shifting some of the risk to employees, are you not?*

**BURNS** That's true. Our feeling is that if we are going develop a managed care system, all the players have to share the responsibility. The employee is an important player. Employees are responsible for their own health, and they should participate financially in health care delivery when they initiate the encounter. We feel it is appropriate, with a few exceptions, to require copayments by patients for ambulatory care they initiate. Once they get into the institutional care system, it's inappropriate to shift costs to them because they have no control over that.

**REECE** *You are also getting health plans into the act. You are demanding that they take certain responsibilities and meet certain specifications before they deal with you. What are those responsibilities and specifications?*

**BURNS** Our benefit plan design will include: 1) contract specifics

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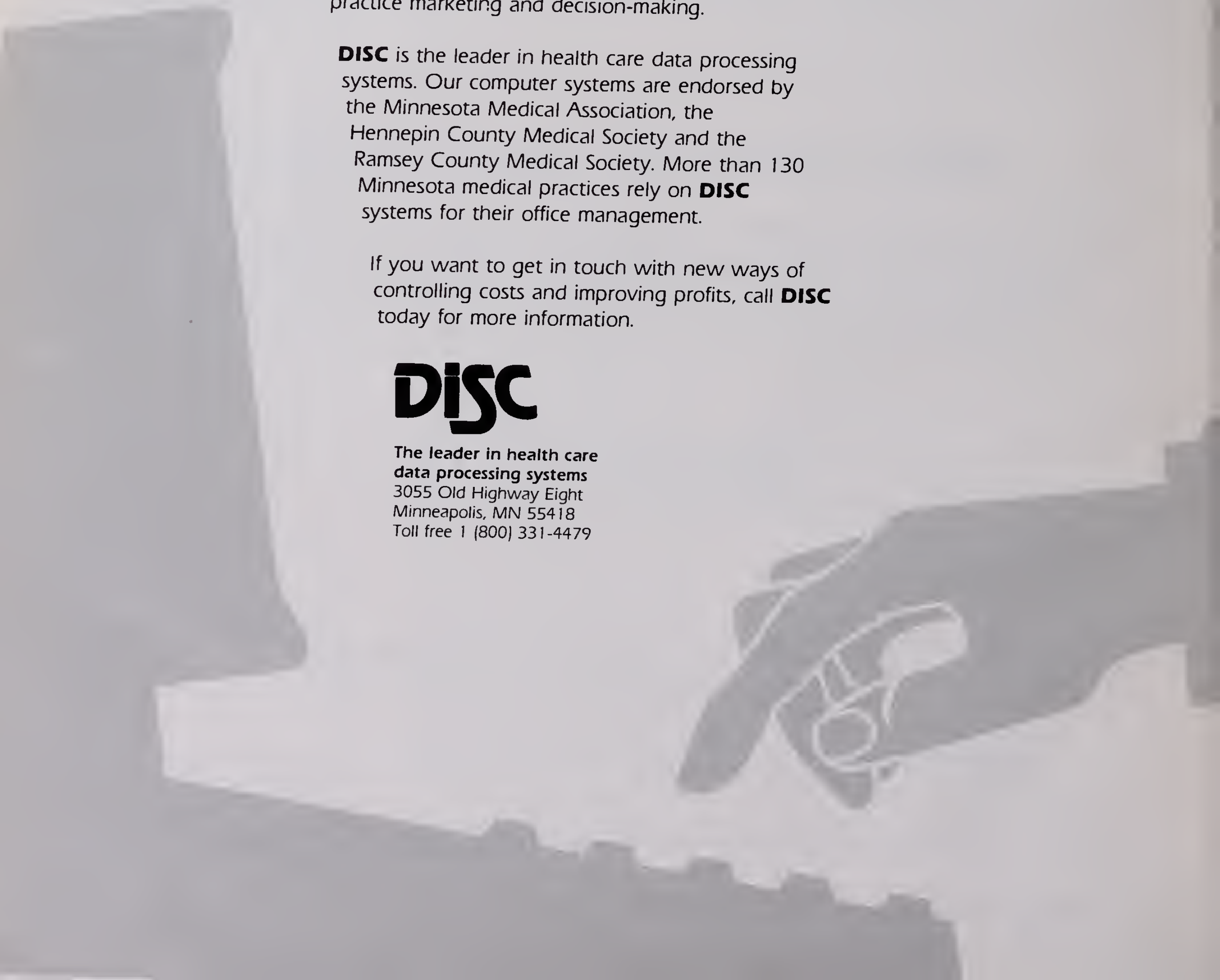


that address the copayments of the employee in ambulatory care; 2) data that are physician, hospital, diagnosis, and patient specific; 3) contract language that clearly states reimbursement is subject to denial or approval on the basis of medical necessity and appropriateness; and 4) on the basis of a certain diagnosis or dollar amount, manadated case management and reimbursement that is contingent upon compliance with the case management plan.

**REECE** *Does the health benefit apply only to a health plan? Can physician groups or hospitals approach you directly, i.e., bypass the HMOs or PPOs, and qualify as providers?*

**BURNS** One of the key opportunities is direct contracting with the providers. If the quality control system of a provider group, i.e., a hospital and its medical staff or a large multispecialty clinic, was such that it could meet the contract specifics, we will deal with them. Obviously, these groups would have to meet the access demands and the distribution of Honeywell employees.

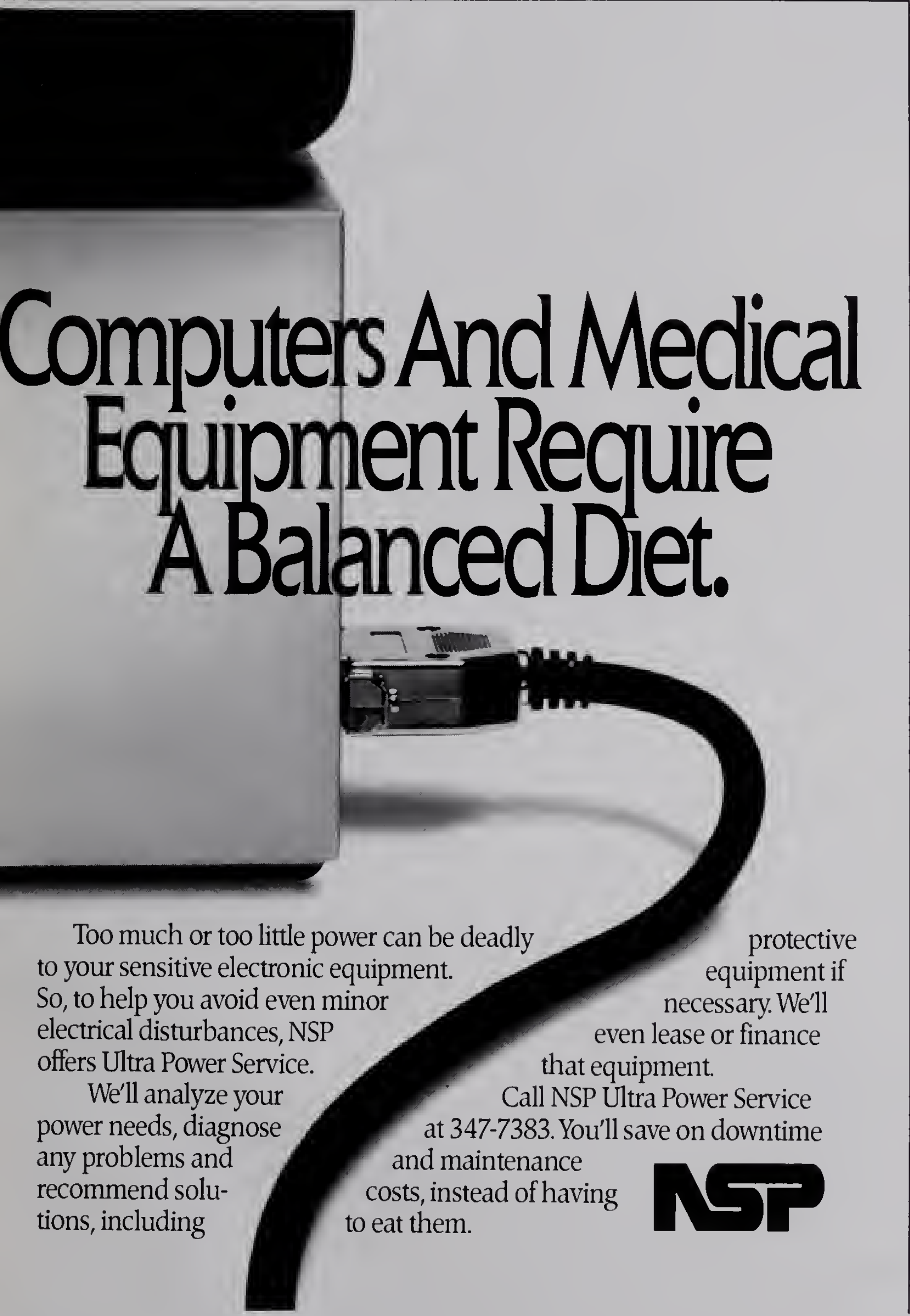
If they could meet these requirements and have quality control systems, there's an excellent opportunity for direct contracting. The claims processing would be handled through a third-party administrator system, but it would be a direct contract. The quality improvement or quality control process would be mandated throughout the provider network. Physicians would be given the opportunity to set quality standards and to be rewarded through selective contracting. We will reward efficient and high-quality providers by giving them patients.

**REECE** *A personal note: You've been a physician executive now for seven years. You've traveled around the world for Honeywell; and you've been named a Pew Fellow by Brandeis and Boston universities to participate in a national forum for health management issues. Given that background, what opportunities do you see for physicians in the management field? What is your advice to them?*

**BURNS** My opinion is that industry desperately needs knowledgeable physicians in health management positions to help address an extremely complex issue. What's been lacking in industry is the input of physicians who have experience in health care delivery. The physician manager is one of the most exciting and clearly emerging health care professions in this country. I believe the management opportunities are just beginning to emerge and will continue to expand for physicians.

**REECE** *You seem to be saying health care management is an exceedingly complex issue, and all of the players have shared responsibility for participating in it.*

**BURNS** That's correct. And there's enough blame to go around. Recognizing that and developing strategies to correct it require the participation and cooperation of all the stakeholders.



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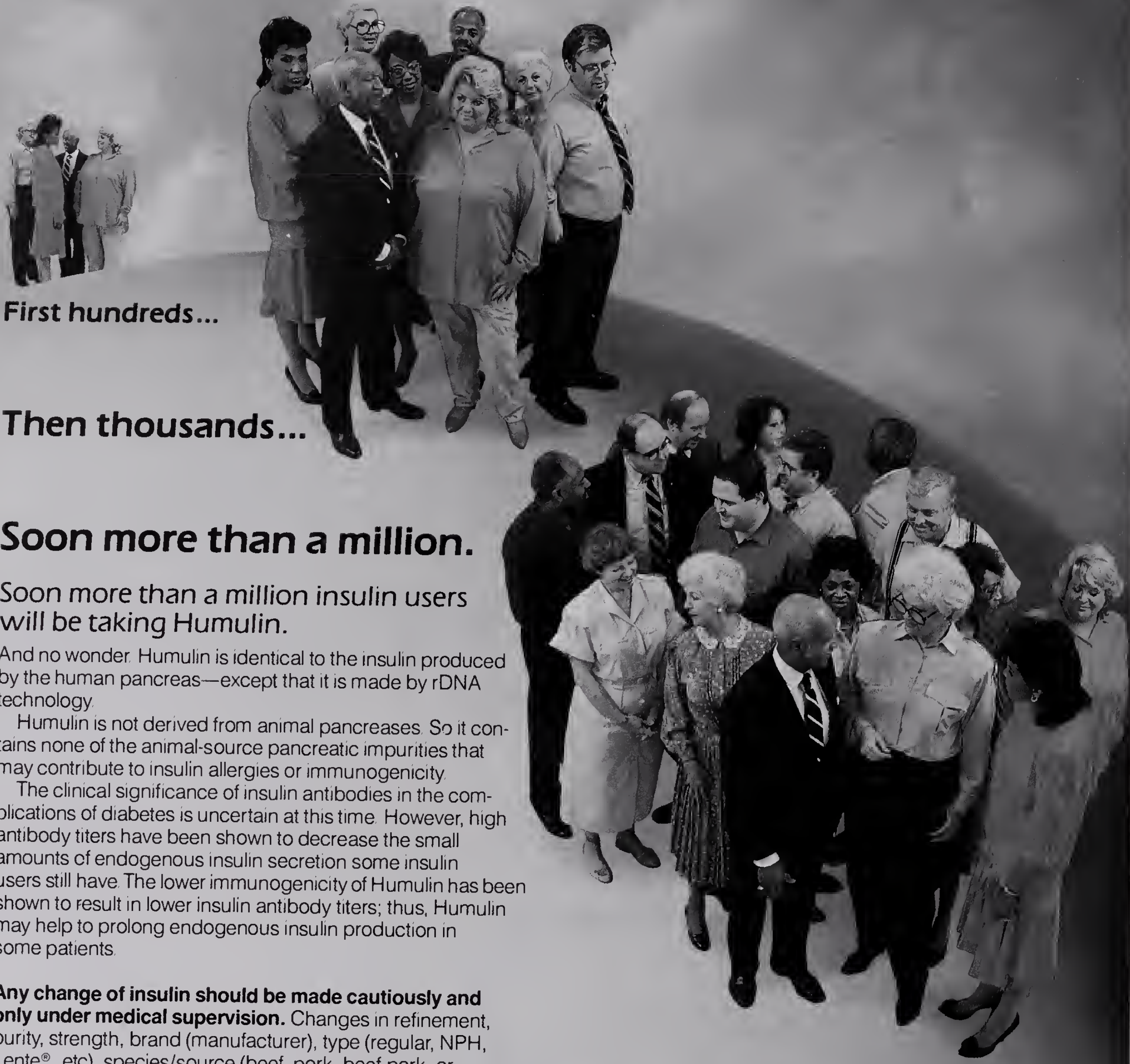

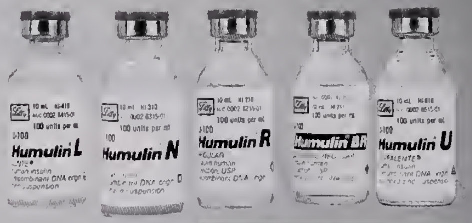

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# Reflections of a Doctor-in-Training

*Paul R. Linde*

A senior medical student, if asked whether he or she would make the decision to study medicine again, might flash a sardonic smirk, breathe a sigh of resignation and say, "You mean if someone would have told me I would have to pay $160 a week to spend 70 hours in the hospital, spend every fourth night on call, come in on weekends, be $40,000 in debt, drive a wreck, and have an impaired social life, would I do it over again?"

It's a question difficult to answer and too painful to consider for long.

Medical students don't need pity but empathy and understanding in our doctor-bashing society. While medical students may rank prominently in our culture as a whole, in hospitals they occupy the bottom rung of the hierarchy, somewhere below janitors and dietary aides. Medical students are required to practice delayed gratification—memorizing and regurgitating a dizzying number of facts, working long hours in the hospital under the guise of education, subjecting themselves to verbal abuse from attending physicians and nurses, and submitting to significant financial and personal sacrifice.

But does gratification await those whose profession currently faces a decline in prestige, satisfaction, independence, and financial rewards? Whose profession anticipates an acceleration of bureaucratic paper blizzards, lawsuits, medical elitism, and administrative opportunists sucking money from the system?

David Wallinga touched a number of these issues when he wrote in *The Minnesota Daily*: "These pressures have forced many physicians into retirement, led others to go on strike, and resulted in a marked decline in the number of good applicants to medical schools—any of which lead to lower quality health care overall" ("Growing health-care crisis challenges U.S.," January 7, 1988).

**Does gratification await those whose profession currently faces a decline in prestige, satisfaction, independence, and financial rewards?**

To begin with, the cost of a medical education is prohibitively expensive. There are no grants available to medical students and only a few scholarships. And lower- and lower-middle-class students, who are often minorities and may not be able to rely on parents to help out financially, are hit the hardest.

Minority students are already underrepresented in the medical profession. According to a study published in the *Journal of the American Medical Association*, blacks constitute 11.7 percent of the general population, but only 5.8 percent of medical students are black; Hispanics constitute 6.5 percent of the general population, but only 3.4 percent of medical students are Hispanic.

Those percentages are not improving and neither is physician job satisfaction. According to a Minnesota Medical Association survey of 509 Minnesota physicians (*Minnesota Medicine*, January 1988), 76 percent enjoy their practices less than they did five years ago. Only 3 percent indicated that changes in the medical environment had increased their sense of fulfillment from medical practice.

Physician independence has also been slighted in the current medical marketplace. In the Twin Cities, many residency training program graduates are virtually forced to become salaried doctors for health maintenance organizations. These employees often start at annual salaries of $40,000 or less after accruing huge debts and undergoing seven or more years of training. According to the MMA survey, 62 percent of the physicians believe prepaid plans have reduced their ability to act as advocates for their patients. And 57 percent say third-party payments have limited treatment options the doctors would have otherwise recommended for their patients.

Doctors-in-training are also being taught to practice defensive medicine—more colorfully known as "cover-your-ass-so-you-don't-get-sued" medicine. The best defense against medical malpractice in our lawsuit-crazy society is compulsive recordkeeping: documenting the risks/benefits of procedures, noting patients' refusal to take certain tests at the physician's urging, and administering excessive testing to rule out the rarest diseases. Needless to say, the possibility of a

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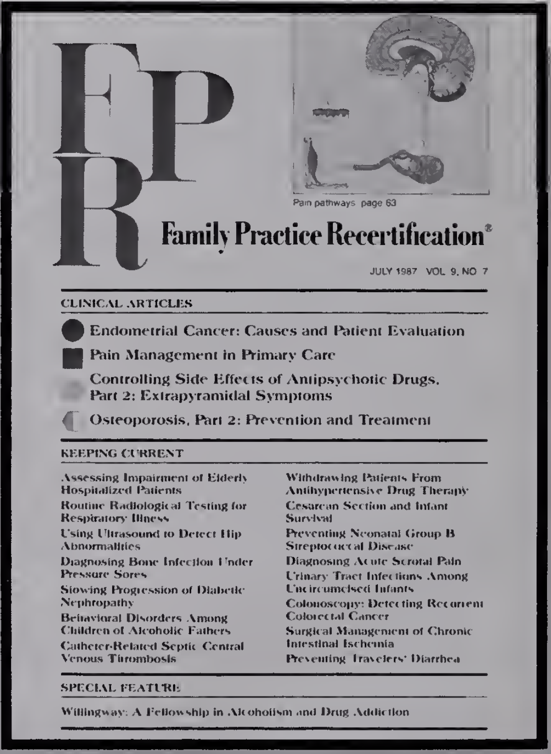
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Pain pathways page 63

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lawsuit can also seriously sabotage the trust within a physician-patient relationship.

Currently, the most egregious use of the medical malpractice lawsuit is levied against obstetricians, who often pay half or more of their salaries for medical malpractice insurance. Obstetricians are routinely sued for delivering congenitally deformed babies. When these unfortunate infants are paraded in front of medically unsophisticated juries as part of a lawsuit, jurors feel a need to compensate the infant's family at the expense of obstetricians, who, given current medical technology, could not diagnose or prevent the baby's congenital abnormality.

For this reason, medical malpractice cases should be decided by clear-headed judges rather than emotion-swayed juries. In addition, dollar amounts of malpractice insurance claims should be capped and malpractice insurance premiums should be limited to a certain percentage of a physician's salary. Already, many family physicians cannot afford obstetrical malpractice insurance and have quit delivering babies, leaving some areas of the United States without obstetrical care.

Physicians of the future can look forward to long hours in residency training, whopping debts, less control over their medical practices, and lawsuits. As they derive less satisfaction from practicing medicine than their predecessors, they become part of an elitist establishment. Nonetheless, I've been struck by my colleagues' dedication and intelligence.

Would I do it over again? For now, I'm making the most of it. Helping the public understand the financial and emotional realities facing new doctors as they enter their profession helps me feel better about my decision to pursue a career in medicine.

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*Paul R. Linde is a fourth-year medical student and a free-lance writer.*

*This essay is reprinted with permission from* The Minnesota Daily, *January 13, 1988.*

# A Second Opinion on What Ails Medicine

*S. R. Maxeiner, Jr., M.D.*

It must be sad for a young man to look back at the decay of his future. Paul Linde's article reprinted herein from *The Minnesota Daily* describes with eloquence some menacing changes in medicine. He recites the litany physicians are familiar with: progressive decline in prestige, satisfaction, independence, and financial rewards; underrepresentation of minorities; excessive costs both in dollars and in labor for medical education; and the fear of being sued. This fear breaks through to fill nearly a third of his piece.

So what is new, really? Physicians-in-training traditionally have been underappreciated and overworked. So probably were apprentices in Ben Franklin's print shop. Gratification delayed is all the sweeter once achieved.

What's new is the possibility that gratification will never be achieved. "Administrative opportunists" do suck money from the system. Paperwork does grow faster than trees. Our distorted tort system does provoke defensive thinking and excessive testing.

But let us keep our thinking straight. Compulsive recordkeeping may be "the best defense," but not against medical malpractice; rather it allows a credible response to any plaintiff's complaint of malpractice. The best defense against medical malpractice is for the physician to see that it doesn't happen—to know his or her work and to pay attention. When medical malpractice does occur, it should not be hidden. A patient wronged by a physician—by a doctor's actual failure to meet contemporary standards—deserves appropriate restitution. Some degree of legal activity and some degree of medical fear may be quite proper in the world. Good records explain the physician's conduct, and, we hope, justify it; they form another part of the "paper blizzard" that Linde deplores.

The real tragedy lies not in compulsive recordkeeping, but in the loss of trust that makes it necessary. For whatever reasons, patients have become suspicious of the physician's devotion; doctors may no longer assume the patient's respect; third-party payers trash physician estimates of the value of services; doctors doubt that planners concern themselves enough with quality of care; the federal government requires physicians to sign promises that they won't cheat. But if the medical world is to function, it must enjoy secure relationships between persons. Mistrust begets mistrust; dissatisfaction sires selfishness.

So the world should heed the concerns of soon-to-be Dr. Linde. Yes, he and his classmates continue to show dedication and intelligence. Yes, he is complaining about some abuses that have been forever true. Yes, he will still make enough money to live on; he shouldn't worry. And we hope our system will get better as we work out its financial kinks. Nevertheless, he has raised worrisome questions that need tending to.

Will he stick around? Will he and his colleagues survive "doctor-bashing"? They need, he says, not pity, but empathy and understanding. Don't we all? Students, physicians, patients, and even attorneys?

The paradox is that physicians are pledged to give empathy and understanding to patients, regardless of recompense, but nobody on that list is pledged to return that kind of support. Nevertheless, physicians need acceptance and trust as part of the healing equation. We must be recognized as sincere advocates for the welfare of our patients. We

**Second Opinion** *to page 196*

# LETTERS TO THE EDITOR

## Finding Compassion in Corporate Medicine

The practice of medicine in the United States is undergoing organizational change as reflected by corporate managed systems of health delivery. The rational for these changes is escalating cost. Unfortunately, in the panic to contain cost, we have jeopardized the physician-patient relationship. Indeed, the premise that "manipulation of its (medicine's) financing and organization can improve the health care system" is questioned.[1]

Traditionally, our health care system placed the physician in the role of patient advocate because patients were vulnerable to exploitation. The physician-patient bond ensured access to medical treatment. The explosion of medical knowledge and technology over the last quarter century has escalated the cost of health care. Economic issues have become the focus of battle between third-party payers, providers, and physicians. The battlefield is littered with new jargon, e.g., profit margin, customer services, markets. Health care has become a commodity that can be bought and sold on the basis of ability to pay. In this system, for whom does the physician advocate, the corporation or the patient?

We must anchor our profession on something we can control so that the present turmoil in health care can be evaluated. I would suggest as physicians we focus on human compassion. The essence of a physician is a concern for the wellness of his or her fellow human being. Advocating this approach will ensure that quality and access to care, and not cost, become the central issues of our health care delivery system.

1. Relman AS: The National Leadership Commission on Health Care. N Engl J Med 317:706-707, 1987.

*Ralph A. Franciosi, M.D.*
*Director*
*Minnesota Sudden Infant Death Center*
*Minneapolis, MN*

## Our Mistake

Your interview with Nazie Eftekhari, president of Family Health Plan, omitted to mention the fact that Riverside Medical Center, (formerly Fairview Riverside Hospital and St. Mary's Hospital), and North Memorial Medical Center are preferred providers with Family Health Plan. Both of these excellent health care facilities have been amongst the pioneers that helped start the Family Health Plan program and have been full participants in the program since its inception.

I thank you for your assistance in correcting this oversight.

*Brian T. Ebeling, M.D.*
*Medical Director*
*Family Health Plan*
*Bloomington, MN*

## Second Opinion from page 195

must be given our patient's trust fully as much as his consent. Else the healing art becomes mere technical exercise. Scientific treatment alone isn't enough; trust is essential.

What may physicians do, for themselves and for future physicians, to win back some of the lost trust? In policy and organization, we can support and applaud the AMA and MMA for their constant vigilance and occasional success in protecting health care from bad politics. In our local communities, we must try to prevent any abuse. Can we identify an impaired or incompetent colleague before the disaster of true malpractice? May we find a way to rectify any *medical* opportunist sucking money from the system? We can cooperate with peer review and demand it be meaningful. We can work for our patients first. Platitudes? Only if we let them be. We turn our faces from responsibility at our own peril.

Paul Linde is about to start his medical career; mine has recently ended. We share a nagging question about the future. Will physcians, former colleagues of mine and future colleagues of Linde's, endure the present climate of—Linde's word is perfect—doctor-bashing? I pray they may. Nothing else in medicine is as basic as trust. Not long hours, not pay, not harassment. Only in mutual trust can we serve our patients well and find any true gratification. He looks for an answer in public understanding. I look for it also in the hearts of doctors.

---

*S. R. Maxeiner, Jr., is a recently retired general surgeon, who practiced for more than 30 years. He recently moved from Edina to Sanibel, Florida.*

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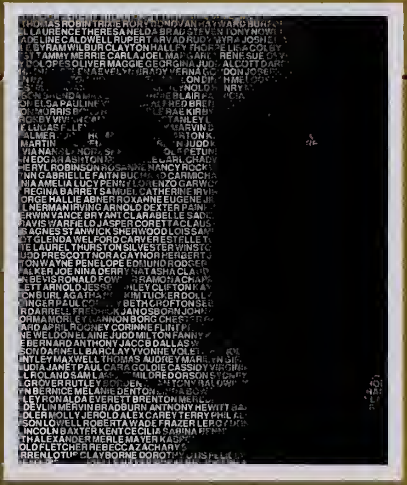

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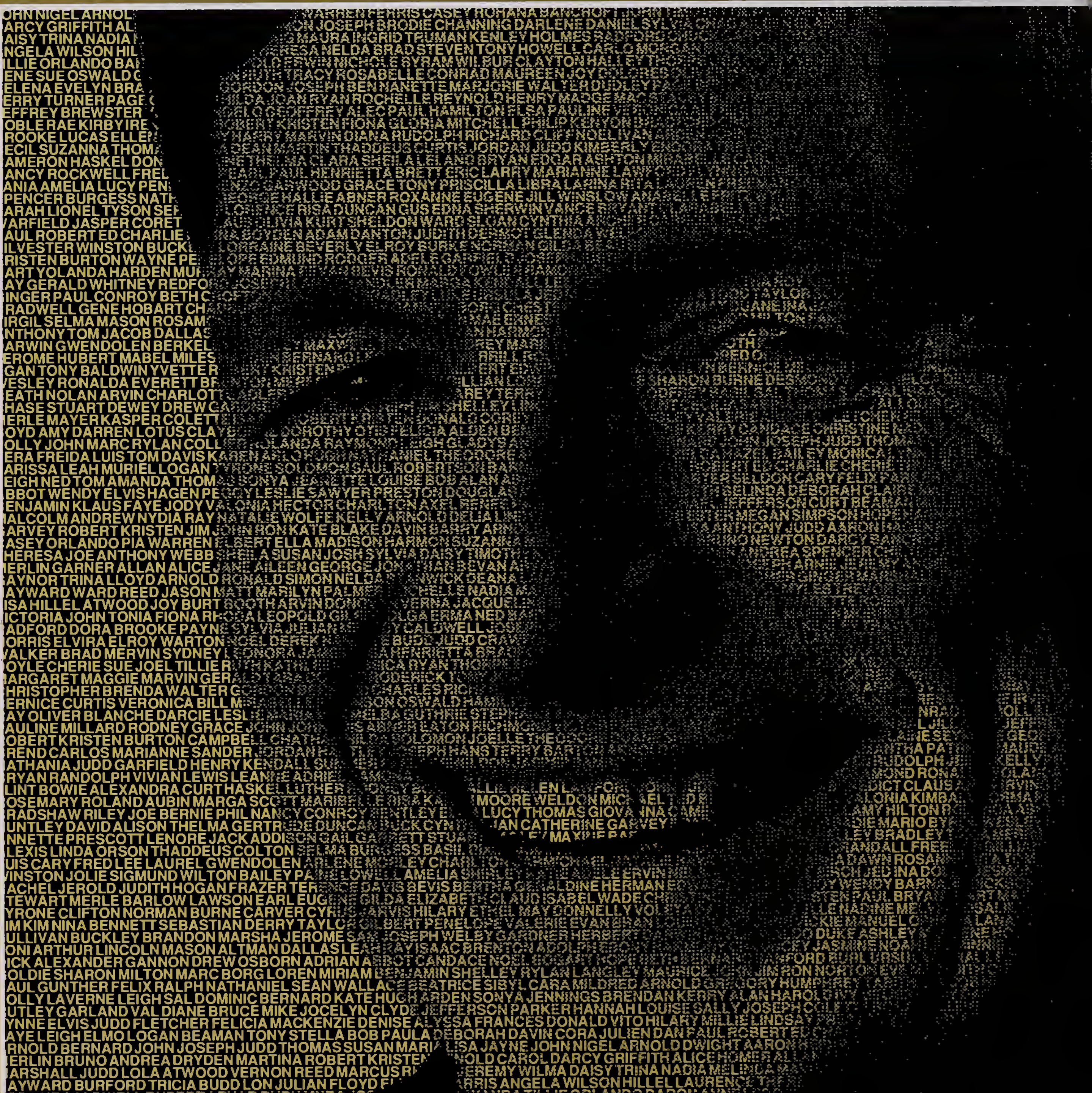

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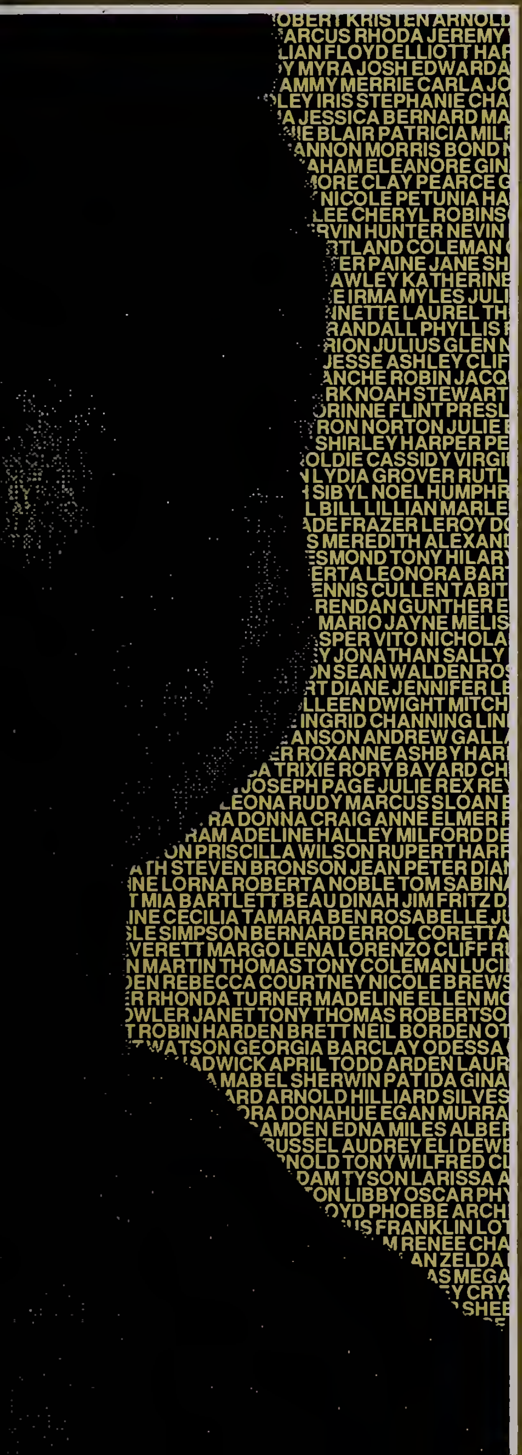
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Like conventional INDERAL Tablets, INDERAL LA should not be used in the presence of congestive heart failure, sinus bradycardia, cardiogenic shock, heart block greater than first degree and bronchial asthma.

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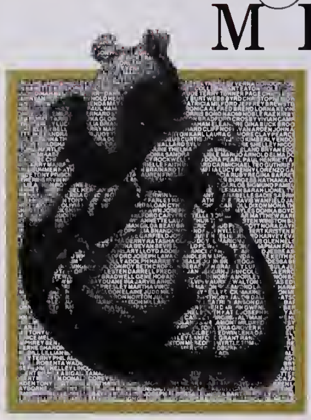

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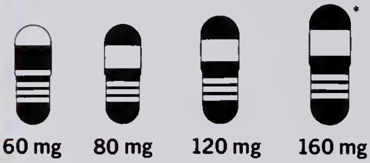

BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR.)*

**INDERAL® LA** brand of propranolol hydrochloride **(Long Acting Capsules)**

**DESCRIPTION.** INDERAL LA is formulated to provide a sustained release of propranolol hydrochloride. INDERAL LA is available as 60 mg, 80 mg, 120 mg, and 160 mg capsules.

**CLINICAL PHARMACOLOGY.** INDERAL is a nonselective, beta-adrenergic receptor-blocking agent possessing no other autonomic nervous system activity. It specifically competes with beta-adrenergic receptor-stimulating agents for available receptor sites. When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta-adrenergic stimulation are decreased proportionately.

INDERAL LA Capsules (60, 80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL Tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg-for-mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure, and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

**INDICATIONS AND USAGE. Hypertension:** INDERAL LA is indicated in the management of hypertension; it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

**Angina Pectoris Due to Coronary Atherosclerosis:** INDERAL LA is indicated for the long-term management of patients with angina pectoris.

**Migraine:** INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

**Hypertrophic Subaortic Stenosis:** INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

**CONTRAINDICATIONS.** INDERAL is contraindicated in 1) cardiogenic shock; 2) sinus bradycardia and greater than first-degree block; 3) bronchial asthma; 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

**WARNINGS.** CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

> IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following *abrupt* discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned, the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

**Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema)**—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, eg, dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA: Beta blockers should be used with caution in diabetic patients if a beta-blocking agent is required. Beta blockers may mask tachycardia occurring with hypoglycemia, but other manifestations such as dizziness and sweating may not be significantly affected. Following insulin-induced hypoglycemia, propranolol may cause a delay in the recovery of blood glucose to normal levels.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol may change thyroid function tests, increasing $T_4$ and reverse $T_3$, and decreasing $T_3$.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case this resulted after an initial dose of 5 mg propranolol.

**PRECAUTIONS.** GENERAL: Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

CLINICAL LABORATORY TESTS: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL (propranolol HCl) is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Caution should be exercised when patients receiving a beta blocker are administered a calcium-channel-blocking drug, especially intravenous verapamil, for both agents may depress myocardial contractility or atrioventricular conduction. On rare occasions, the concomitant intravenous use of a beta blocker and verapamil has resulted in serious adverse reactions, especially in patients with severe cardiomyopathy, congestive heart failure, or recent myocardial infarction.

*Aluminum hydroxide gel* greatly reduces intestinal absorption of propranolol.

*Ethanol* slows the rate of absorption of propranolol.

*Phenytoin, phenobarbitone,* and *rifampin* accelerate propranolol clearance.

*Chlorpromazine,* when used concomitantly with propranolol, results in increased plasma levels of both drugs.

*Antipyrine* and *lidocaine* have reduced clearance when used concomitantly with propranolol.

*Thyroxine* may result in a lower than expected $T_3$ concentration when used concomitantly with propranolol.

*Cimetidine* decreases the hepatic metabolism of propranolol, delaying elimination and increasing blood levels.

*Theophylline* clearance is reduced when used concomitantly with propranolol.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

PREGNANCY: Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

NURSING MOTHERS: INDERAL is excreted in human milk. Caution should be exercised when INDERAL is administered to a nursing woman.

PEDIATRIC USE: Safety and effectiveness in children have not been established.

**ADVERSE REACTIONS.** Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

*Cardiovascular:* Bradycardia; congestive heart failure; intensification of AV block; hypotension; paresthesia of hands; thrombocytopenic purpura; arterial insufficiency, usually of the Raynaud type.

*Central Nervous System:* Light-headedness; mental depression manifested by insomnia, lassitude, weakness, fatigue; reversible mental depression progressing to catatonia; visual disturbances; hallucinations; vivid dreams; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics. For immediate formulations, fatigue, lethargy, and vivid dreams appear dose related.

*Gastrointestinal:* Nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

*Allergic:* Pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

*Respiratory:* Bronchospasm.

*Hematologic:* Agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

*Auto-Immune:* In extremely rare instances, systemic lupus erythematosus has been reported.

*Miscellaneous:* Alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

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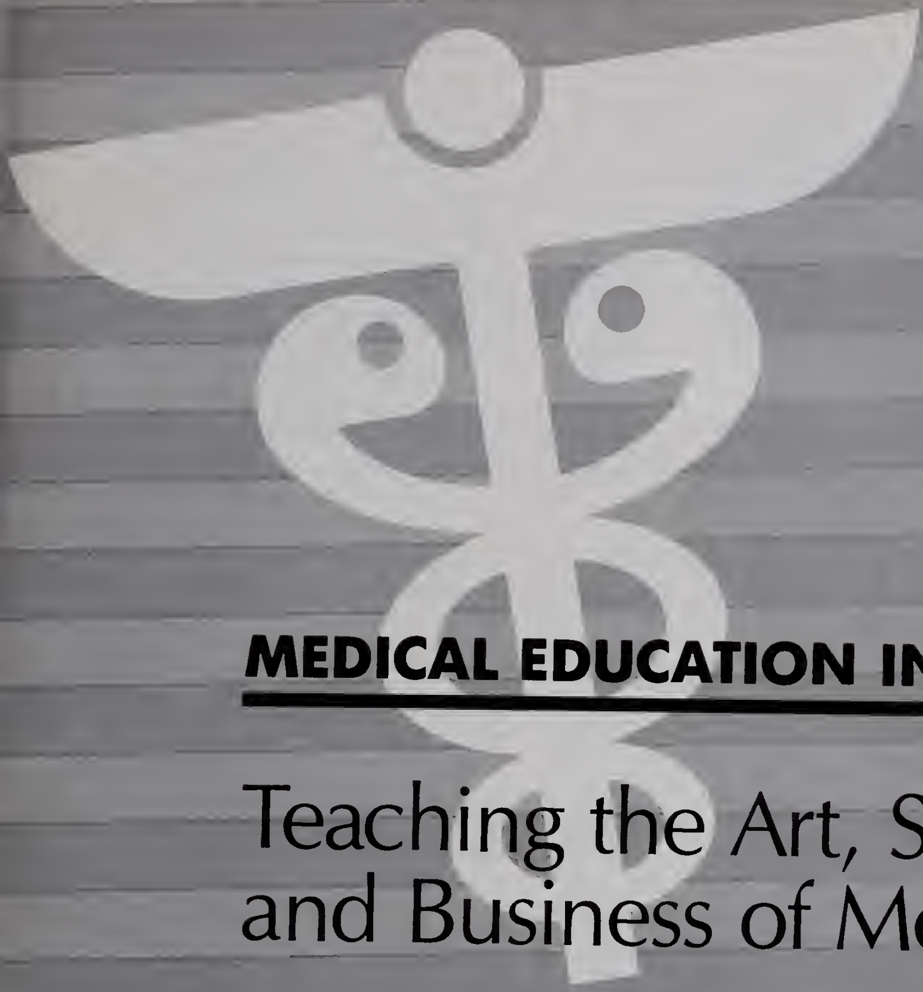

## MEDICAL EDUCATION IN THE '80s

# Teaching the Art, Science, and Business of Medicine

*Delores Lutz*

Armed with the basic medical sciences, some clinical skills, high ideals, and her Hippocratic Oath, Dr. Susan K. Mahle graduated from the University of Minnesota Medical School in 1976. Now, as a pediatrician in suburban Minneapolis, she is scrambling to learn management techniques while she keeps up with medical knowledge that grows at a dizzying rate.

"I spend more of my time dealing with the business and economic aspects of my practice than I do with continuing education," she said. "I think that's wrong, but it's essential. It's a matter of survival."

The experience has convinced her that medical education must be altered to keep pace with the changing health care system, because modern medical practice requires knowledge and skills no one imagined doctors would need a generation ago.

Mahle is not alone in her plea for reform. The Minnesota Medical Association's recent survey of physicians showed that the overwhelming majority thought their formal education did a poor job of preparing them for contract negotiations, marketing, and financial management (*Minnesota Medicine*, January 1988).

Educators say that comes as no surprise, because such matters have assumed great importance for physicians only in recent years. While they sympathize with the frustration of doctors like Mahle, they concede that they do not have the answer to the problem.

Medical schools do not see money management courses as compatible with their mission. Financial education should be left to business schools, educators say, because medical schools exist to teach medicine, first and foremost.

Medical schools are making changes in their curricula, but the new courses focus on topics such as ethical dilemmas and legal issues. In schools that do offer courses on medical economics, the emphasis is on broad outlines of the complex system of delivering and financing health care in the United States. They do not teach specific skills such as how to negotiate a contract with a health maintenance organization, and educators say that is appropriate.

Financial issues are "trendy," said Dr. David Brown, dean of the University of Minnesota Medical School, but they should not be allowed to crowd out the essentials of a physician's training.

"I don't want to give Marketing 1001 as part of health care education," Brown said. "I hate to think you could teach a person to be a manager before you could teach them something about the content of what they're dealing with."

Dr. Nick Rogers, associate dean of academic affairs at the Mayo Medical School in Rochester, agrees. "To turn a medical school into a technical school is bad news," he said.

Medical knowledge is escalating so rapidly that it's all medical schools can do to give students the solid base they need to keep up with the changes in diagnosis and therapy that lie ahead. Educators fit the basics into the four-year curriculum, then send young doctors forth for a lifetime of continuing education and intellectual growth.

**Modern medical practice requires knowledge and skills no one imagined doctors would need a generation ago.**

But some observers, like Dr. M. Roy Schwarz of the American Medical Association, think that medical education needs to change significantly to adapt to economic realities, as well as to the new legal, social, and political climate.

"We're not preparing students for the kinds of things they have to face when they get out," said Schwarz, who is the AMA's assistant executive vice president for medical education and science.

In fact, everyone agrees that some changes are necessary, but professionals disagree on the appropriate time and place to approach some subjects. The curriculum is crowded with scientific and clinical courses, and educators emphasize that students already are suffering from information overload.

Some curriculum changes are underway, however. In Minnesota, both Mayo and the University of Minnesota Duluth School of Medicine offer formal courses in medical economics, although neither is designed to do more than give students a broad introduction to the complexities of the modern American health care system.

Duluth also exposes students to economic issues through their work with practicing physicians, so they receive some tutoring on practical matters, according to James Boulger, associate dean at Duluth. The school offers the first two years of medical education to students who transfer to the University's Twin Cities campus for the third and fourth years.

Others believe some topics more properly belong in residency programs. Business skills should be taught during graduate medical education, argues Dr. Robert McCollister, associate dean for curriculum affairs at the University of Minnesota Medical School. He says it is not prudent to give students that knowledge five years before they need it, because laws change, HMOs go out of business, and the economic scene may be quite different when the young doctors finally enter practice.

One good reason for confining that training to residencies is that different specialists may need different information, says Dr. August C. Swanson, vice president for academic affairs of the American Association of Medical Colleges. "What the neurosurgeon may need to know in adjusting to the world of medical care is different from what the family practitioner or psychiatrist may need to know," he said.

Mahle, however, believes that medical students can be efficiently taught about economics without disrupting the curriculum, and she cites her own experience as evidence. In her fourth year of medical school at Minnesota, she took an elective in clinical pathology at Mount Sinai Hospital, in Minneapolis, where she was taught a cost-effective approach to laboratory work-ups. "Before that, I didn't know the cost of one test I ordered," she said. "I had no idea of the practical cost. We lived in a fantasy world where we assumed that everything was affordable. Patients thought they could have any test they wanted, and they didn't worry about who paid the bill."

But these days, third-party payers worry a lot about patients' bills, and, like it or not, physicians do too.

Still, everyone agrees that physicians must understand more than just financial issues. Many social issues need to be addressed, both Brown and Mahle point out, including access to health care, aging, chemical abuse, the family, and ethical concerns. "Medical school can only provide the underpinning and support," Brown said. "We have to teach people how to think, how to learn, and we have to start with a strong basic education, not only in the sciences but the humanities."

Recognizing that their mission goes far beyond teaching clinical medicine, medical schools throughout the country have gradually expanded their programs to include courses in human sexuality, biomedical ethics, basic health care economics, nutrition, preventive medicine, chemical abuse, and legal issues. Some schools, responding to technology and anticipating the future role of computers in continuing education, are requiring medical students to develop computer literacy.

At the University of Minnesota Medical School in Minneapolis, first-year students take a required ethics course, and another has just been added to the fourth year. At Mayo, an ethics course has been required for the last seven years.

Ethics education receives an added dimension at Duluth, because UMD medical students receive part of their clinical training working beside family physicians in the small towns of northern Minnesota. In those settings, ethical dilemmas are influenced by the relationships in a closely knit social network, which subject doctors to pressures that might not be felt in an urban hospital.

"In a small community, you're dealing with your friends," said Boulger. "That changes things a lot."

A course on preventive medicine and public health has been added at Mayo because students requested it, said Rogers, who believes that with so many ailments related to lifestyle, such as heart disease, it's only sensible for physicians to know something about prevention.

PHOTO BY CRAIG LASSIG

Pediatrician Susan Mahle found her medical training did not prepare her for the realities of the medical marketplace.

Some schools are going beyond curriculum change, altering admissions standards in an effort to attract students with varied backgrounds. The University of Pennsylvania, for example, recently announced that it will no longer require specific undergraduate courses for admission. Applicants instead are expected only to acquire certain scientific and verbal skills and will still need to submit their Medical College Admissions Test (MCAT) scores.

It is too soon to tell the policy's impact, but so far potential applicants have reacted favorably, according to Susan Croll, the school's director of admissions. "They thought it was a liberating concept," she said. With the same intent, Johns Hopkins has stopped requiring applicants to take the MCAT.

That may be a good idea, says Mayo's Rogers, but there will be little significant impact because everyone trying to get into medical school will have to go on taking the test and taking certain courses to meet the requirements of all the other schools to which they apply.

"I applaud philosophically what they're doing," Rogers said. "Both are steps in the right direction, but

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there's not going to be a stampede (to follow their lead)."

Harvard Medical School also has adopted an innovative approach. Its "New Pathway" program, implemented in 1985, is aimed at turning out doctors who are more sensitive to patients and better prepared to be lifelong learners. Its creators believe that the New Pathway approach will make the practice of medicine more humane. Instead of being subjected to large lectures, medical students are encouraged to study on their own. Problem-solving replaces the memorization of facts, and student-faculty contact is fostered through preceptorships and tutorials. The clinical and scientific elements of medical education are woven throughout the curriculum.

Like Rogers, Swanson applauds the concept, but he doubts it will catch on everywhere. "The old guard still wants to talk students to death," he said. The medical student who is forced to sit through hours of lectures so that she can later regurgitate facts is not necessarily equipped to become a self-directed learner, and everyone now agrees that the drive to teach oneself is essential to continuing medical education.

Minnesota also is trying to teach students to direct their own learning, and the faculty is attempting to socialize them to develop the people skills that mark a good physician.

In an effort labeled "Golden Threads," eight faculty members are sorting out the essentials—such as good clinical skills and ethical standards—and attempting to weave them into the curriculum at every opportunity. Those "golden threads" are supposed to teach medical students an artful set of skills McCollister calls "doctoring."

That approach is meant to replace the traditional method of socializing students, which McCollister describes as an "understudy" system in which residents serve as role models for fourth-year students, who, in turn, are models for the third-year class, and so on. The problem with that approach, McCollister said, is that no one articulates what constitutes the ideal physician.

"I don't think we can define what a doctor is," McCollister said, "But I can show you people who do it well."

There still is only one effective way to teach medical care, and that is through the interaction of physician, patient, and student in the hospital or clinic, according to Mahle.

"The art of compassion—humane, ethical medicine—is not taught in the classroom, it's instilled at the bedside," she said.

Medical schools are finding new ways to teach doctoring. But while the health care system is in the midst of revolutionay change, educators admit that medical education evolves slowly. While course content changes from year to year as knowledge expands, the curriculum itself is altered sparingly.

"The change in medical education has been likened to the movement of a glacier," said Dr. William Jacott, former chairman of the AMA's Council on Medical Education. "But I think the temperature is rising, and it will move faster." While responding to the needs of the health care delivery system, educators also must remember that they are preparing more than one type of professional in medical schools, said Jacott, who is assistant vice president for health sciences at the University.

"We must continue to train those who will be teachers or researchers," Jacott said. "We cannot develop a whole generation of practitioners and lose the scientists and teachers."

Educators also don't have much choice, McCollister said, because they have to prepare medical students for the board exams.

PHOTO BY CRAIG LASSIG

**Dr. Robert McCollister, associate dean of curriculum affairs at the University's Medical School, combines the new with the old to teach the art of doctoring.**

Physicians such as Susan Mahle, however, think that medical school faculties fail to see the urgency of changing because they are relatively sheltered. "People teaching medicine aren't really faced with the nitty-gritty economic realities of medicine," she said. "We learn it by the seat of our pants out here."

Urgent or not, the dilemmas continue and are unlikely to be resolved soon. "There always is pressure to change the curriculum because different people have different agendas," says Mayo's Nick Rogers. "But we can't teach everybody everything. Besides, this is just the first four years of 44 years of continuing education."

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*Delores Lutz is a Twin Cities free-lance writer who also is the medical reporter for* The Minnesota Daily, *the University of Minnesota's newspaper.*

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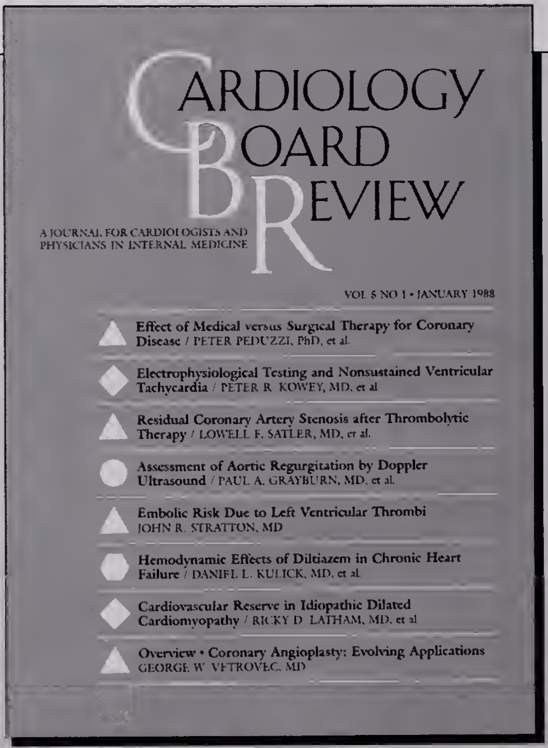

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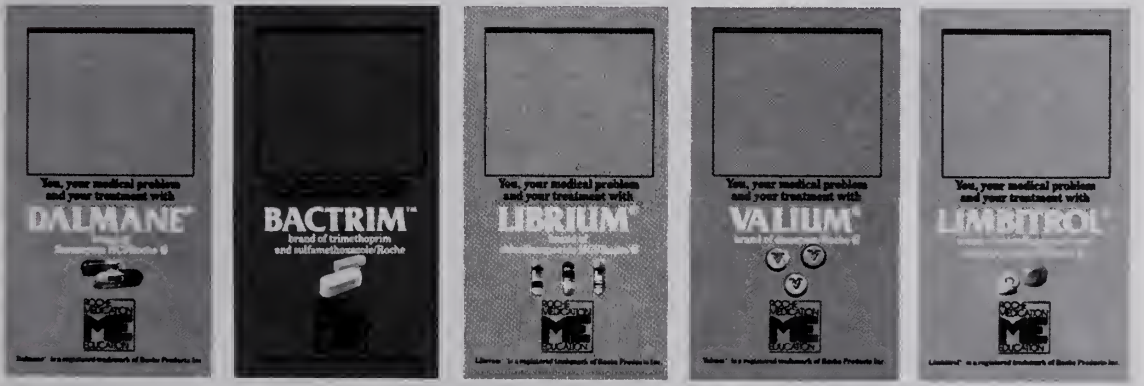
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# Screening Mammography in a Primary Care Setting

*Noah Nesin, M.D.; Barbara A. Elliott, Ph.D.; and Thomas E. Elliott, M.D.*

**We reviewed 641 consecutive screening mammogram reports from a breast center at a multispecialty clinic. Five hundred forty-seven were negative, 56 were initially indeterminate, and 38 were positive. Of the 38 patients with positive screening mammograms, six had biopsy-proven cancer. Of these, three had Stage I disease, and three had Stage II disease. The affected women ranged in age from 43 to 76. Forty-six of the 56 indeterminate studies have had follow-up. None of these women was found to have malignancy. Cost per cancer found was $10,831.33. We conclude that it is medically indicated and cost efficient for primary care physicians to follow the American Cancer Society guidelines for screening mammography.**

Breast cancer is the most prevalent malignancy in women. It affects one of 11 women sometime during their lifetime, and each year 113,000 new cases are diagnosed. Thirty-seven thousand women die from the disease each year, accounting for 19% of all cancer deaths. In an attempt to improve the survival rate of patients with breast cancer, the American Cancer Society funded the Breast Cancer Detection Demonstration Project study of 280,000 women,[1] which resulted in the American Cancer Society guidelines for screening mammography[2] (Table 1). Yet, a controversy continues whether screening mammography is a cost-effective procedure, and many physicians are reluctant to follow the guidelines.[3-7] Because many insurance programs will not reimburse for a screening test, physician attitudes play an important role in determining whether or not a woman agrees to undergo screening mammography.

To evaluate our local experience, screening mammogram reports were reviewed to determine the test's true positive rate in our community setting, costs, and medical outcomes for the patients.

## Methods

We reviewed 641 consecutive screening mammogram reports. The mammograms were done between April 1, and May 31, 1985. A mammogram consisted of two views of each breast using the dedicated film screen mammography unit. The majority of the women in the study were between ages 40 and 70 (Figure 1). Mammograms were "team" read by clinic radiologists and the breast clinic nurse who had done the physical exam before the mammogram. Included as part of each mammogram report was a form[8] stating the probability of cancer (Figure 2). This report was reviewed for this study to determine if the screening test was positive or negative. Lesions with high (80%) or intermediate probability of malignancy were considered positive. Lesions with low (<10%) or very low (<2%) probability of malignancy were considered indeterminate. All others were read as negative.

Women with symptoms or physical findings referable to the breast were excluded from the study. When necessary to determine follow-up and outcome, patients' clinic and hospital charts were reviewed. In addition, each woman undergoing mammography in this setting routinely filled out a questionnaire to establish symptoms, risk factors, and breast self-exam habits. These questionnaires were also reviewed for the women in our study.

To figure the costs of detecting the breast cancer, we included all diagnostic modalities and procedures through tissue diagnosis. We did not include costs of treating the disease.

## Results

Of the 641 screening mammograms reviewed, 547 were interpreted by the radiologists as negative, and no further follow-up was done (Figure 3). Fifty-six were initially indeterminate (interpreted as either low or very low probability of cancer). Of these women, 48 had follow-up mammograms, ultrasound, or biopsy that ruled out cancer. The remaining 10 have follow-up pending as of this writing.

Thirty-eight of the initial screening mammograms were interpreted as positive (greater than 80% or intermediate likelihood of being malignant). Among these women, 25 had cancer ruled out by biopsy, 12 by ultrasound, and one by needle aspiration.

There were six biopsy-proven cancers (four excisional and two needle biopsies). The affected women ranged in age from 43 to 76 (Table 2). Three cancers were Stage I and three were Stage II using TNM classification. Treatment modalities are outlined in Table 2.

Costs are listed in Table 3. Included are costs of initial and follow-up mammograms, ultrasound studies, needle localization

**TABLE 1**
American Cancer Society guidelines for screening mammography

| Age | Screening Mammography |
|---|---|
| Age 35-40 | Baseline mammogram |
| Age 40-50 | Every other year |
| Age 50 and on | Every year |

for biopsy, needle biopsy, excisional biopsy, aspiration of cysts, surgical fees, and operating room and anesthesia costs. Costs of mastectomy, hormone therapy, and chemotherapy are not included since these are costs of the breast cancer treatment and not of screening. Total cost per cancer found was $10,831.33.

Figures 4 and 5 summarize the data regarding risk factors. Personal history of breast cancer increased with age from 3% in women under age 40, to 10% in the over 70 age group. Of all the women in the study, 6.4% had a personal history of breast cancer.

Twenty-six percent of the women in the study had a family history of breast cancer. This was constant in all age groups for those over 39. Forty percent of those under 39 had a family history of breast cancer.

Patterns of breast self-exam are shown in Figure 6. Overall, 49% of the women in the study claim to do monthly breast self-exams; no pattern was apparent by age group.

## Discussion

In a two-month period, six breast cancers were discovered in asymptomatic women who had no physical findings on breast exam. All were Stage I and Stage II (and, therefore, potentially curable) cancers. The affected women spanned a wide age range, and only one had a family history of breast cancer. None of those affected had a personal history of breast cancer. One of the six was treated with wide excision and radiation therapy. The remaining five had modified radical mastectomies. One woman received chemotherapy, and one woman received tamoxifen. Outcome is yet to be determined, but long-term prognosis is good for all of these women.

Risk factors (family history and personal history of breast cancer) were not different comparing the women with normal mammography to those with cancer. The higher rate of breast cancer in the families of women under 39 years of age is felt to be an appropriate sampling bias. Physicians recommended screening mammography at an earlier age for women with positive family histories.

Forty-nine percent of the women questioned claimed to do breast self-exam on a monthly basis. Accepting this as accurate, we feel there is room for a great deal of

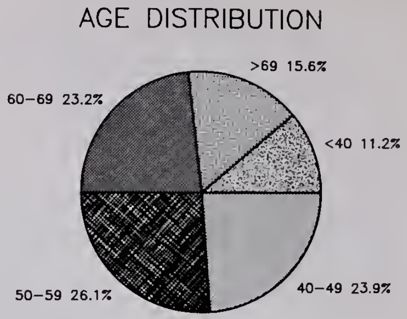
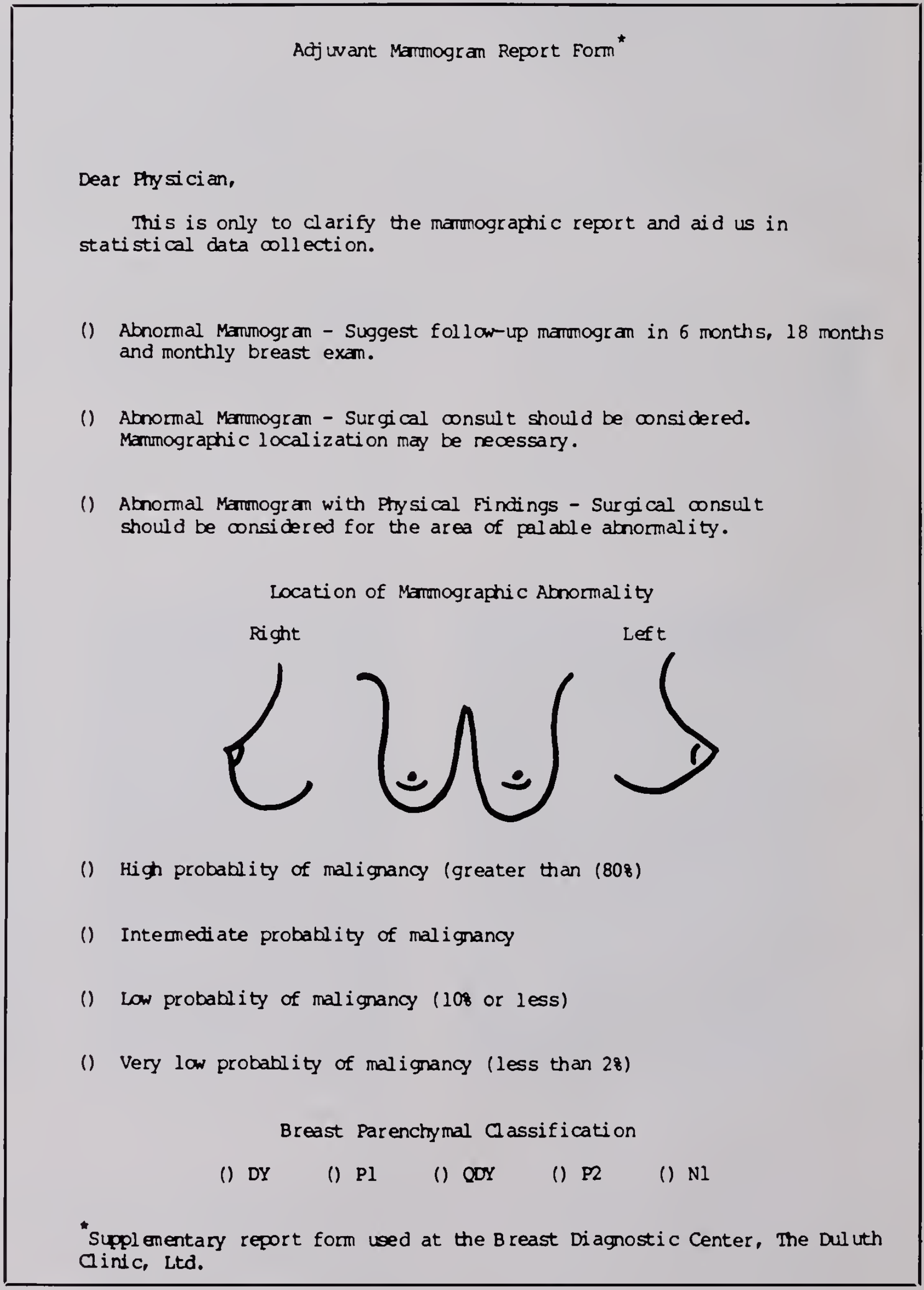


**FIGURE 1 - Age distribution of women studied.**



Adjuvant Mammogram Report Form*

Dear Physician,

This is only to clarify the mammographic report and aid us in statistical data collection.

() Abnormal Mammogram - Suggest follow-up mammogram in 6 months, 18 months and monthly breast exam.

() Abnormal Mammogram - Surgical consult should be considered. Mammographic localization may be necessary.

() Abnormal Mammogram with Physical Findings - Surgical consult should be considered for the area of palable abnormality.

Location of Mammographic Abnormality

() High probablity of malignancy (greater than (80%)

() Intermediate probablity of malignancy

() Low probablity of malignancy (10% or less)

() Very low probablity of malignancy (less than 2%)

Breast Parenchymal Classification

() DY () P1 () QDY () P2 () N1

*Supplementary report form used at the Breast Diagnostic Center, The Duluth Clinic, Ltd.

**FIGURE 2 - Report form stating probability of cancer.**

**TABLE 2**
Individual cases

| Age | BSE?* | Risk Factors | Previous Mammogram | Diagnostic Procedure | Stage | Treatment |
|---|---|---|---|---|---|---|
| 43 | no | family history | none | excision biopsy | 1 | lumpectomy & radiation |
| 52 | yes | none | none | excision biopsy | 2 | mastectomy & chemotherapy |
| 59 | yes | none | > 2 years | needle biopsy | 1 | mastectomy |
| 61 | yes | none | none | excision biopsy | 1 | mastectomy |
| 71 | no | none | 1-2 years | excision biopsy | 2 | mastectomy & tamoxifen |
| 76 | no | none | none | needle biopsy | 2 | mastectomy |

*BSE? = Did she do monthly breast self-examination?

**TABLE 3**
Costs - 1985

| Nos. | Procedure | Cost/Procedure | Total Cost |
|---|---|---|---|
| 641 | Mammogram | $ 70.00 | $ 44,870.00 |
| 48 | Ultrasound | 30.00 | 1,440.00 |
| 19 | Needle localization | 85.00 | 1,615.00 |
| 19 | Excisional biopsy | 260.00 | 4,494.00 |
| 7 | Needle biopsy | 63.00 | 441.00 |
| 2 | Aspiration | 38.50 | 77.00 |
| 58 | Follow-up mammogram | 30.00 | 1,740.00 |
| | Pathology costs | | 1,695.00 |
| | OR & anesthesia | | 8,170.00 |
| | | TOTAL | $ 64,988.00 |

1985 cost per cancer found $10,831.33

improvement through patient education.

Based on 38 positive mammograms and six cancers found, our true positive rate is 15.7%. This compares favorably with the figure of 10% quoted in many studies. It can be argued that the women whose mammograms were indeterminate should be included in the calculation of true positive rate. They do require further workup, but the majority of these women needed only repeat mammograms or ultrasound. Only three of the 56 women with indeterminate mammograms underwent biopsy to rule out cancer as a result of a radiologist's opinion of the image (Figure 2). The high false-positive rate is a concern to many physicians. However, the nature of any screening test is to sacrifice specificity for sensitivity. This is especially important in mammography. In order to find minimal lesions (< 1 cm, or > 1 cm and noninfiltrating), screening tests are read liberally. Minimal lesions carry a 20-year survival rate of 93%. The Breast Cancer Detection Demonstration Project (BCDDP) indicated that nearly 35% of breast cancers could be diagnosed at the minimal lesion stage through the use of screening mammography.

Another major concern of physicians recommending screening mammography is cost. Moskowitz and Fox reported a very favorable cost-benefit analysis of screening mammography based on a study of 10,500 women between 1973 and 1977.[9] Their cost per cancer found was $9,046.00, which in 1985 dollars would be $15,617.84. Our cost per cancer found was significantly lower, at $10,831.33. It also should be noted that all women were included in the BCDDP study, regardless of whether they presented with symptoms or breast mass. Our study included only true screening mammograms, since any woman with breast symptoms or mass (discovered by either her or her physician) was excluded. Also, from our experience, screening mammography is empirically cost beneficial. Based purely on economics, the productivity of a woman in the home or job market in one year clearly is worth more than our cost per cancer found. Naturally, human benefits are more difficult to quantify.

## Conclusions

The American Cancer Society guidelines for screening mammog-

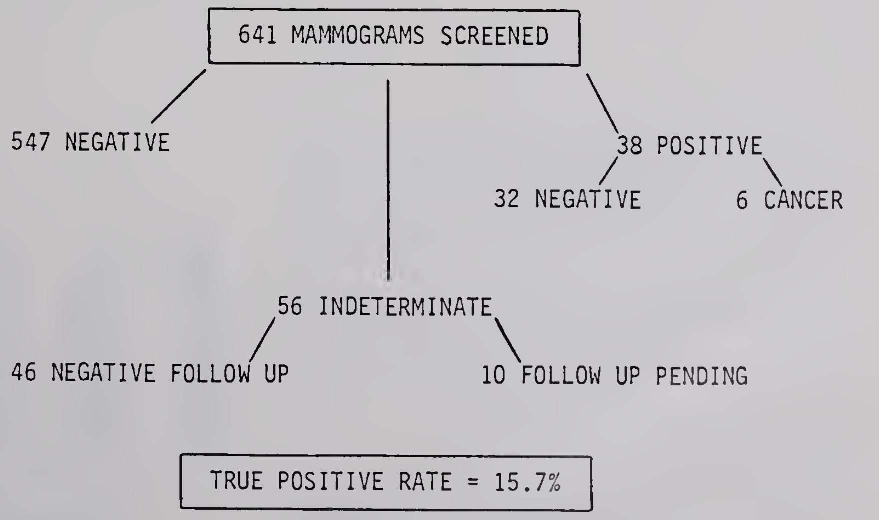


**FIGURE 3 - Results of 641 screening mammograms reviewed.**

raphy should be closely followed by primary care physicians. Based on the Breast Cancer Detection Demonstration Project and supported by our study in a primary care setting, both medical and economic considerations favor this approach.

An attempt at improved patient compliance with breast self-exam should be made through patient education and physician reinforcement. Our study indicates that this should be directed at all age groups of women, regardless of risk factors for breast cancer.

Most important, physicians should be aggressive and enthusiastic about the need for screening mammograms and in reinforcing this information to women. Physicians' attitudes may be the most important factor in a woman's decision to undergo screening mammography. Without screening mammography, disease is often discovered beyond its curable stages.

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*While a resident in the Duluth Family Practice Residency Program, Noah Nesin presented this paper at the Minnesota Academy of Family Physicians' spring Research Forum in 1986, where the paper received accolades as the best resident paper that year. Dr. Nesin now works at the Family Practice Clinic in Mattawamkeag, Maine.*

*Barbara Elliott is director of Behavioral Science and Research at the Duluth Family Practice Residency Program, and Thomas Elliott is a hematologist-oncologist at The Duluth Clinic, Ltd., in Duluth, Minnesota.*

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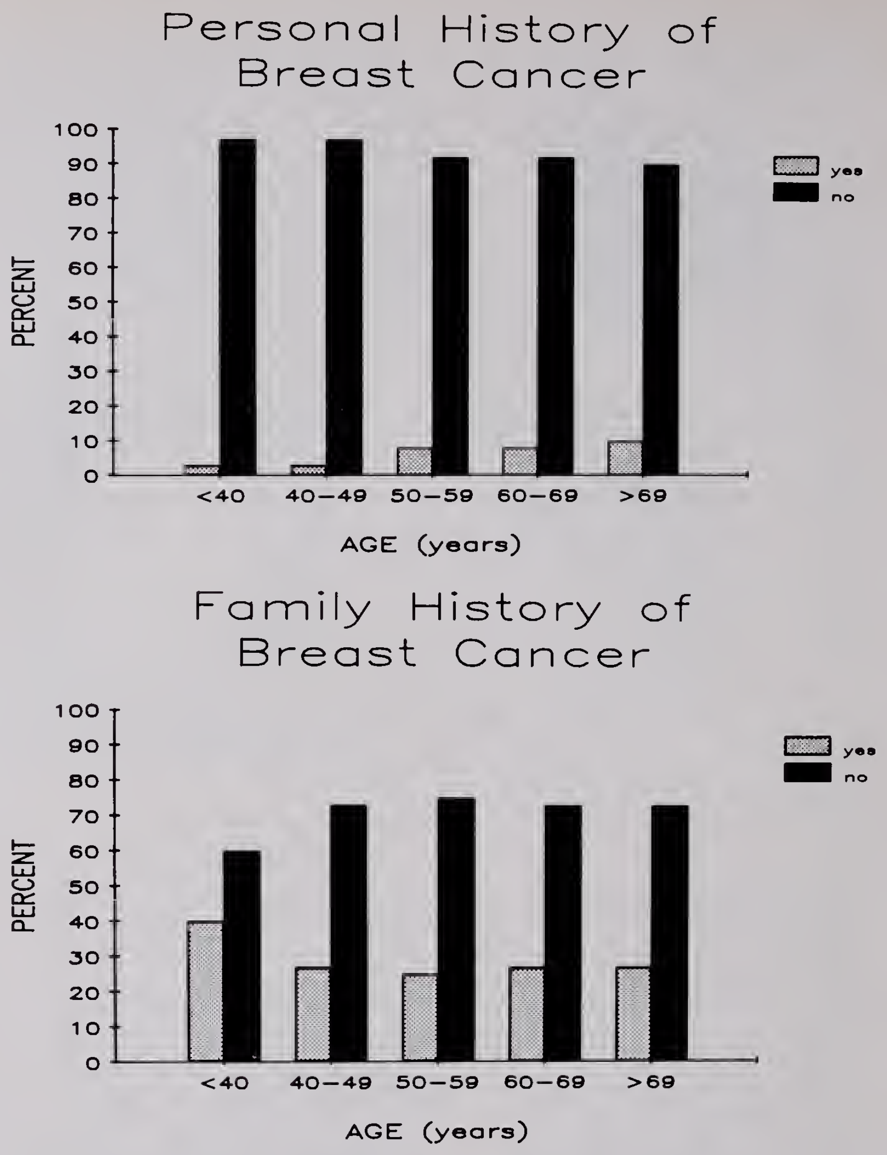

**FIGURES 4, 5 - Summary of risk factors.**

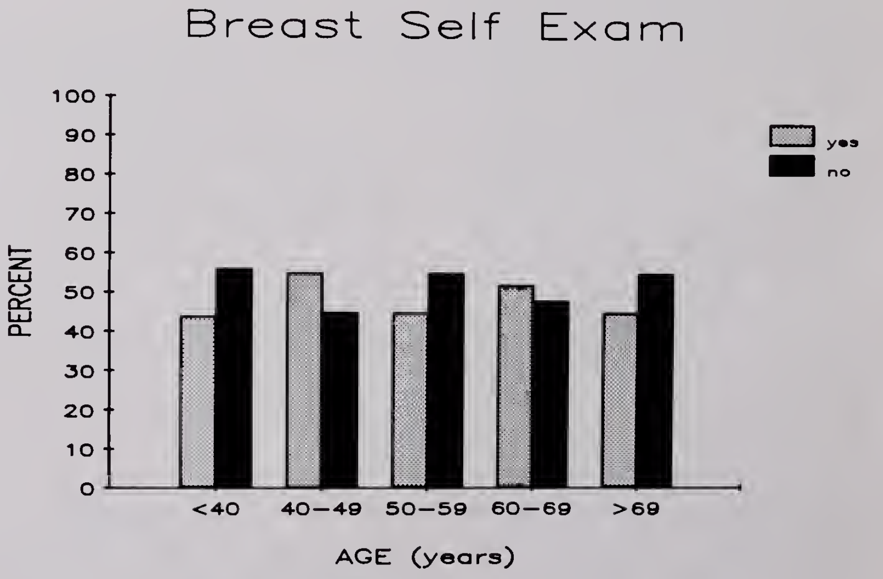

**FIGURE 6 - Patterns of breast self exams.**

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1 For therapeutic use in patients with hypokalemia with or without metabolic alkalosis, in digitalis intoxication and in patients with hypokalemic familial periodic paralysis.

2. For the prevention of potassium depletion when the dietary intake is inadequate in the following conditions: Patients receiving digitalis and diuretics for congestive heart failure, hepatic cirrhosis with ascites, states of aldosterone excess with normal renal function, potassium-losing nephropathy, and with certain diarrheal states.

3. The use of potassium salts in patients receiving diuretics for uncomplicated essential hypertension is often unnecessary when such patients have a normal dietary pattern. Serum potassium should be checked periodically, however, and if hypokalemia occurs, dietary supplementation with potassium-containing foods may be adequate to control milder cases. In more severe cases supplementation with potassium salts may be indicated.

**CONTRAINDICATIONS:** Potassium supplements are contraindicated in patients with hyperkalemia since a further increase in serum potassium concentration in such patients can produce cardiac arrest. Hyperkalemia may complicate any of the following conditions: Chronic renal failure, systemic acidosis such as diabetic acidosis, acute dehydration, extensive tissue breakdown as in severe burns, adrenal insufficiency, or the administration of a potassium-sparing diuretic (e.g., spironolactone, triamterene).

Wax-matrix potassium chloride preparations have produced esophageal ulceration in certain cardiac patients with esophageal compression due to enlarged left atrium.

All solid dosage forms of potassium chloride supplements are contraindicated in any patient in whom there is cause for arrest or delay in tablet passage through the gastrointestinal tract. In these instances, potassium supplementation should be with a liquid preparation.

**WARNINGS: Hyperkalemia**—In patients with impaired mechanisms for excreting potassium, the administration of potassium salts can produce hyperkalemia and cardiac arrest. This occurs most commonly in patients given potassium by the intravenous route but may also occur in patients given potassium orally. Potentially fatal hyperkalemia can develop rapidly and be asymptomatic. The use of potassium salts in patients with chronic renal disease, or any other condition which impairs potassium excretion, requires particularly careful monitoring of the serum potassium concentration and appropriate dosage adjustment.

**Interaction with Potassium Sparing Diuretics**—Hypokalemia should not be treated by the concomitant administration of potassium salts and a potassium-sparing diuretic (e.g., spironolactone or triamterene) since the simultaneous administration of these agents can produce severe hyperkalemia.

**Gastrointestinal Lesions**—Potassium chloride tablets have produced stenotic and/or ulcerative lesions of the small bowel and deaths. These lesions are caused by a high localized concentration of potassium ion in the region of a rapidly dissolving tablet, which injures the bowel wall and thereby produces obstruction, hemorrhage or perforation.

K-DUR tablets contain micro-crystalloids which disperse upon disintegration of the tablet. These micro-crystalloids are formulated to provide a controlled release of potassium chloride. The dispersibility of the micro-crystalloids and the controlled release of ions from them are intended to minimize the possibility of a high local concentration near the gastrointestinal mucosa and the ability of the KCl to cause stenosis or ulceration. Other means of accomplishing this (e.g., incorporation of potassium chloride into a wax matrix) have reduced the frequency of such lesions to less than one per 100,000 patient years (compared to 40–50 per 100,000 patient years with enteric-coated potassium chloride) but have not eliminated them. The frequency of GI lesions with K-DUR tablets is, at present, unknown. K-DUR tablets should be discontinued immediately and the possibility of bowel obstruction or perforation considered if severe vomiting, abdominal pain, distention, or gastrointestinal bleeding occurs.

**Metabolic Acidosis**—Hypokalemia in patients with metabolic acidosis should be treated with an alkalinizing potassium salt such as potassium bicarbonate, potassium citrate, potassium acetate, or potassium gluconate.

**PRECAUTIONS:** The diagnosis of potassium depletion is ordinarily made by demonstrating hypokalemia in a patient with a clinical history suggesting some cause for potassium depletion. In interpreting the serum potassium level, the physician should bear in mind that acute alkalosis per se can produce hypokalemia in the absence of a deficit in total body potassium while acute acidosis per se can increase the serum potassium concentration into the normal range even in the presence of a reduced total body potassium. The treatment of potassium depletion, particularly in the presence of cardiac disease, renal disease, or acidosis requires careful attention to acid-base balance and appropriate monitoring of serum electrolytes, the electrocardiogram, and the clinical status of the patient.

**Laboratory Tests:** Regular serum potassium determinations are recommended. In addition, during the treatment of potassium depletion, careful attention should be paid to acid-base balance, other serum electrolyte levels, the electrocardiogram, and the clinical status of the patient, particularly in the presence of cardiac disease, renal disease, or acidosis.

**Drug Interactions:** Potassium-sparing diuretics; see **WARNINGS.**

**Carcinogenesis, Mutagenesis, Impairment of Fertility:** Long-term carcinogenicity studies in animals have not been performed.

**Pregnancy Category C:** Animal reproduction studies have not been conducted with K-DUR. It is also not known whether K-DUR can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. K-DUR should be given to a pregnant woman only if clearly needed.

**Nursing Mothers:** The normal potassium ion content of human milk is about 13 mEq per liter. Since oral potassium becomes part of the body potassium pool, so long as body potassium is not excessive, the contribution of potassium chloride supplementation should have little or no effect on the level in human milk.

**Pediatric Use:** Safety and effectiveness in children have not been established.

**ADVERSE REACTIONS:** One of the most severe adverse effects is hyperkalemia (see **CONTRAINDICATIONS, WARNINGS,** and **OVERDOSAGE).** There have also been reports of upper and lower gastrointestinal conditions including obstruction, bleeding, ulceration, and perforation (see **CONTRAINDICATIONS** and **WARNINGS)**; other factors known to be associated with such conditions were present in many of these patients.

The most common adverse reactions to oral potassium salts are nausea, vomiting, abdominal discomfort, and diarrhea. These symptoms are due to irritation of the gastrointestinal tract and are best managed by taking the dose with meals or reducing the dose.

Skin rash has been reported rarely.

**OVERDOSAGE:** The administration of oral potassium salts to persons with normal excretory mechanisms for potassium rarely causes serious hyperkalemia. However, if excretory mechanisms are impaired or if potassium is administered too rapidly intravenously, potentially fatal hyperkalemia can result (see **CONTRAINDICATIONS** and **WARNINGS**). It is important to recognize that hyperkalemia is usually asymptomatic and may be manifested only by an increased serum potassium concentration and characteristic electrocardiographic changes (peaking of T-waves, loss of P-waves, depression of S-T segment, and prolongation of the QT-interval). Late manifestations include muscle-paralysis and cardiovascular collapse from cardiac arrest.

Treatment measures for hyperkalemia include the following:

1. Elimination of foods and medications containing potassium and of potassium-sparing diuretics.
2. Intravenous administration of 300 to 500 ml/hr of 10% dextrose solution containing 10–20 units of insulin per 1,000 ml.
3. Correction of acidosis, if present, with intravenous sodium bicarbonate.
4. Use of exchange resins, hemodialysis, or peritoneal dialysis.

In treating hyperkalemia, it should be recalled that in patients who have been stabilized on digitalis, too rapid a lowering of the serum potassium concentration can produce digitalis toxicity.

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# How Hospital Practice is Changing for the Family Physician

*Charles McCoy, M.D.; Kenneth P. Olson, M.D.; Jacqueline Vos, M.S.; Margaret Healey, Ph.D.*

**A study of inpatient encounter data was undertaken for 23 family physicians at Park Nicollet Medical Center, a multispecialty group practice with an affiliate health maintenance organization. The study includes 10,126 inhospital encounters by a department of mostly young, residency-trained family physicians from September 1983 to December 1984.**

**Hospital encounters for 2,260 admissions were recorded by retrospective chart audit, and data were obtained regarding patient age and gender, principal diagnosis, length of stay, number of visits, and use of consultation. Reliability of data retrieval was demonstrated by a reliability study on 30 admissions which was undertaken partway through the study. Principal diagnoses were grouped into diagnosis clusters for comparison with prior studies.**

**The inhospital workload was found to be less than what has been described, and in decline. The patient population was younger, and the content of practice favored medical, obstetrical, and well-child care with fewer surgically related problems. The high rate of shared responsibilities and consultation suggests that encounter data regarding inpatient family practice should be interpreted with the understanding that many patients are seen by consultants. The extent to which this study represents a future trend for family practice will depend upon how health care is organized in coming years.**

Family practice has gained much of its identity through studies of patient encounters. Initial studies focused on outpatient care and provided valuable data regarding problems commonly seen by general and family physicians in their offices.[1,2] However, inpatient care has received less attention, understandably, given the dominant role of outpatient care in family practice.

There are several reasons to investigate further the role of family physicians in the hospital. The regulation of hospital privileges for family practice is controversial, as evidenced by the hundreds of physicians who contact the American Academy of Family Physicians annually with problems.[3] Furthermore, changes occurring in reimbursement mechanisms alter the organization of health care and hospital utilization.[4] Finally, relatively little is known about which physicians are responsible for specific procedures and diagnoses.[5] Additional study could clarify issues concerning hospital privileges for family physicians and provide a basis for further education, research, and clinical practice.

The major source of information about inhospital family practice comes from the Medical Activities and Manpower Project (MAMP), initiated by the University of Southern California in the 1970s. MAMP data provided a multistage probability sample of U.S. physicians in many specialties, including family and general practice. The family practice component of the USC survey was described in articles published in 1982 and 1984, and presents a description of inhospital family practice activity at that time.[5,6]

The typical family physician in 1977 was "a middle-aged man with little or no formal postgraduate training who (worked) as a solo practitioner in an urban area." Hospitalized patients were predominantly female, and a large proportion were in the geriatric age range. Approximately one-fourth of the average physician's workload was spent on inhospital care, although there was considerable individual variation. Nearly 70% of all problems encountered in hospital could be described in 30 diagnosis clusters, a listing which is quite divergent from the content of ambulatory care.

It is suspected that hospital workload and content are rapidly changing for family physicians and that much of the MAMP hospital data is becoming outdated. It has been demonstrated that practice patterns of residency-trained family physicians vary from their nonresidency-trained predecessors. One expects "a substantial reshuffling of the way in which hospitalized patients are cared for as residency-trained family physicians replace an older cohort of physicians."[6] Also, hospital utilization is declining rapidly, as new methods of reimbursement are devised to control costs. Furthermore, the emergence of large, multispecialty clinics whose physicians provide prepaid care may significantly alter the inpatient content and style of family physicians. Finally, a more interdependent relationship among specialties is developing, yet little is known about the shared responsibilities for inpatient care. A retrospective study of hospital care by Park Nicollet Medical Center (PNMC) family physicians was developed to demonstrate changes occurring in this new socioeconomic environment.

A description of the hospital activities of family physicians at Park Nicollet Medical Center may provide a unique window onto the future. First, as a large multispecialty clinic with an affiliated health maintenance organization (HMO), PNMC may represent an important trend in health care delivery settings.[4] Second, family practice has been a part of the clinic for 15 years and remains an important factor in the delivery of care for its growing primary care base. Third, most family physicians at PNMC are under age 45 and are residency trained, thus representative of a growing segment of the specialty. Finally, there are few formal constraints on the hospital activities of PNMC family physicians, allowing physician behavior to reflect individual choice and community tradition rather than imposed regulation.

## The Setting

Park Nicollet Medical Center is a multispecialty group practice with a combined fee-for-service and health maintenance organization patient base. Formed by the merger of two groups in 1983, it has more than 260 physicians who are board eligible or board certified in 33 medical specialties and subspecialties. MedCenters Health Plan, an HMO with 200,000 enrollees, was formed by PNMC in 1972 and has provided a growing patient populaton.[7]

During the period studied, essentially all PNMC family practice inpatient encounters occurred at Methodist Hospital, a community hospital in St. Louis Park, Minnesota. Family physicians at Methodist have hospital privileges in medicine, obstetrics, pediatrics, and intensive care. Invasive techniques, such as Swan Ganz monitoring or ventilator management, usually are left to medical subspecialists. Surgical procedures, including Cesarean sections, appendectomies, and herniorrhaphies, also are done by consultants. Many patients, however, continue to be seen by their family physicians while hospitalized under the care of other specialists.

## Methods

A retrospective chart audit was undertaken from Methodist Hospital records of patients seen by PNMC family physicians from September 1, 1983, to December 31, 1984. Ninety-four percent of all admissions with PNMC family practice encounters at Methodist were included. The charts of the remaining 6% of admissions were not available for review. Described are 2,260 hospital admissions and 10,126 encounters by a department of 23 family physicians.

Each chart was abstracted by a medical records technician, GT, or one of two physicians. Admitting specialty was determined from admission notes and orders. Principal diagnosis and length of stay were obtained from the admission face sheet, as recorded by attending physician. Number of visits and use of consultation were determined by review of progress notes and physician orders.

Principal diagnosis for each admission was coded according to the ICD-9-CM classification system and grouped into diagnosis clusters.[8] The method of clustering employed was described by Rosenblatt et al.,[5] and allows for comparison with earlier studies.

There are two separate sources of data regarding hospital workload. The majority of data, including number of admissions, length of stay, and number of encounters, was obtained directly from chart review. Two additional family practice figures, total outpatient encounters (116,502) and total inpatient encounters (12,040), were obtained from PNMC billing data and are used only to determine the ratio of inpatient to total workload.

## Results

**Physician characteristics:** Table 1 displays age, sex, training, and board certification of members of the Family Practice Department of PNMC during the study. The typical family practice physician is a relatively young, residency-trained male physician with board certification.

**TABLE 1**
Characteristics of PNMC family physicians, 1984

| | Percent | Number |
|---|---|---|
| Board certified | 100% | 23 |
| Residency graduate | 83 | 19 |
| Gender | | |
| Male | 78 | 18 |
| Female | 22 | 5 |
| Age (year) | | |
| Under 35 | 35 | 8 |
| 35-44 | 61 | 14 |
| 45-54 | 4 | 1 |

**Patient age and health insurance:** Table 2 shows the age and health insurance of inpatients encountered by PNMC family physicians. Almost 30% of all patients admitted were in the pediatric age group, a percentage far higher than the 7.7% in the MAMP study. Conversely, at 19.0, the percentage of geriatric patients was much lower than the MAMP average of 39%. This reflects the early marketing strategy of MedCenters Health Plan, which was initially available only to employees of Twin Cities corporations and did not become available to Medicare patients until 1982. Thus, PNMC inpatients were younger than had been described for a national sample.

**Hospital workload:** All family physicians at PNMC admit patients to the hospital as part of their ongoing practice. The hospital workload represents 9.4% of all encounters, a figure which is below the national average of 23.1% for family practice.

The hospital workload was temporarily affected by a nurses' strike at Methodist Hospital which occurred in June and July 1984. During the strike, there was a shortage of hospital beds, and hospital activity declined. The overall hospital workload of 9.4% is perhaps somewhat lower than would have occurred. The strike-related shortage of hospital beds was resolved by August 1984.

Table 3 shows the trend in hospital workload, comparing the last quarter of 1983 to the last quarter of 1984. The number of hospital encounters declined from 82.8 per physician per quarter to 58.3. This was due to a decline in the average length of stay from 5.5 to 3.8

**TABLE 2**
Health insurance and age of inpatients encountered by PNMC family physicians

| Age of patients (year) | HMO(%) | Health Insurance Non-HMO(%) | Total(%) |
|---|---|---|---|
| Under 17 | 21.0% | 8.7% | 29.7% |
| 17-44 | 24.6 | 10.9 | 35.5 |
| 45-64 | 9.6 | 6.2 | 15.8 |
| Over 65 | 2.3 | 16.7 | 19.0 |
| TOTAL | 57.5 | 42.5 | 100.0 |

**TABLE 3**
Trend in hospital workload

|  | Visits per FTE* | Length of Stay per Admission | Visits per Admission | Admissions per FTE* |
|---|---|---|---|---|
| October - December 1983 | 82.8 | 5.5 | 5.3 | 15.7 |
| October - December 1984 | 58.3 | 3.8 | 3.9 | 14.5 |

*Full-time equivalent

days ($p < .001$), which resulted in a decline in number of visits per admission from 5.3 to 3.9 ($p < .005$).

During this time, the number of admissions did not change significantly, and the shortened length of stay could not be explained by changes in patient gender and age or by content of practice.

**Content of hospital practice:** The principal diagnoses for 2,260 admissions were grouped into diagnosis clusters and ranked according to the frequency of encounters per cluster. The results are presented in Table 4. Seventy-six percent of all diagnoses could be clustered into 52 titles, and more than half the visits could be clustered into 12 titles. The rank order and frequency of PNMC data are compared with results from the University of Southern California Medical Activities and Manpower Project. Comparative results should be interpreted with the understanding that the PNMC inpatient workload is less than half the national average for MAMP physicians.

Well-child care represents 15.4% of all inpatient visits, a percentage much higher than the 1.8% national average. This reflects a higher percentage of pregnancies managed by family physicians, although more than half the well-child encounters were generated from infant deliveries by obstetricians.

Several medical diagnoses occurred considerably more often at PNMC than in the MAMP study. Chest pain, cardiac arrhythmias, pancreatitis, pulmonary embolism and infarction, and seizure disorder were seen more than twice as frequently as the national average.

Ten clusters occurred much less often than described in the MAMP study. Six clusters within the top 30 described by MAMP did not occur in the PNMC listing. Four of these are surgically related problems: surgical aftercare, benign disease of the uterus, external hernia of the abdominal wall, and abnormal menstrual bleeding. Two medical problems, peptic ulcer disease and diarrheal disease, were not in the PNMC ranking. Four additional problems occurred less than half as often at PNMC: appendicitis, ischemic heart disease, diabetes mellitus, and chronic obstructive pulmonary disease. Three of these are chronic medical conditions, and their lower frequencies may reflect PNMC's younger HMO patient population.

**Use of consultation:** Hospital care by a family physician frequently involves physicians from other specialties. Table 5 displays the shared responsibilities for patients seen by PNMC family physicians. Thirty-four percent of all admitted patients were cared for by family physicians alone. Of the 1,649 patients admitted by family practice, 53% had consultation from another specialty. In addition, 611 patients were seen by family physicians after admission by another specialty, representing 27% of all patients visited in the hospital.

The relationship of family physicians to their consultants was not clear from chart audit. In some instances, a consultation resulted in transfer of care (e.g., to a surgeon for appendicitis). In others, specialty involvement was limited but critical (e.g., obstetrics for a difficult delivery). In many cases, more than one specialty assumed active management of both principal diagnosis and co-morbidities (e.g., cardiology and family practice both writing orders on coronary care unit patient).

Family physicians assumed the medical management of many patients admitted to other specialties; 280 of the patients admitted to another service had outpatient preop exams by family physicians. Many of these patients were admitted by surgical subspecialists and subsequently seen by family physicians in the hospital. Although some of these encounters were social visits and did not involve writing orders, the exact nature of such encounters could not be determined from chart audit.

Table 6 lists the rates of consultation by diagnosis for the top 12 clusters. Only four were managed with consultation less than half the time: well-child care, pregnancy, pneumonia, and chest pain. All four clusters represent patients who were not criticially ill and comprise over half the 773 patients who were seen without consultation.

## Discussion

The physicians of this study represent a small but distinct segment of family practice as it exists in the United States today. Several personal and practice characteristics separate their inpatient care from what has been described for family physicians nationally. Most physicians are relatively young and residency trained. Their inhospital practice content reflects a lower rate of surgically related problems, including appendicitis, surgical aftercare, benign disease of the uterus, abnormal menstrual bleeding, and hernias. Conversely, pregnancy and complex medical diagnoses occur more often. Both

**TABLE 4**
Comparison of inpatient diagnosis clusters for PNMC family physicians and MAMP, September 1, 1983 - December 31, 1984

| | PNMC | | | MAMP | |
|---|---|---|---|---|---|
| Cluster Title | Cluster Rank | Percent Frequency | Cumulative Frequency | Cluster Rank | Percent Frequency |
| Well-child care | 1 | 15.4% | 15.4 | 15 | 1.8% |
| Pregnancy (normal and complicated) | 2 | 6.8 | 22.2 | 3 | 4.4 |
| Back pain, radiculopathy | 3 | 4.9 | 27.1 | 4 | 4.3 |
| Cerebrovascular disease | 4 | 4.4 | 31.5 | 5 | 4.0 |
| Malignant neoplasm | 5 | 4.0 | 35.5 | 2 | 6.2 |
| Ischemic heart disease (including myocardial infarction) | 6 | 3.9 | 39.4 | 1 | 7.9 |
| Fractures and dislocations (excluding femur, skull, and all late effects) | 7 | 2.4 | 41.8 | 11 | 2.3 |
| Congestive heart failure | 8 | 2.3 | 44.1 | 8 | 2.7 |
| Kidney stone | 9 | 1.8 | 45.9 | 20 | 1.4 |
| Pneumonia | 10 | 1.8 | 47.7 | 6 | 3.1 |
| Chest pain | 11 | 1.7 | 49.4 | 48 | 0.3 |
| Disease of intestine and peritoneum | 12 | 1.7 | 51.1 | 22 | 1.3 |
| Fracture femur (excluding late effects) | 13 | 1.7 | 52.8 | 17 | 1.6 |
| Disease of urinary tract (ill-defined) | 14 | 1.5 | 54.3 | 21 | 1.4 |
| Cholecystitis | 15 | 1.5 | 55.8 | 13 | 1.9 |
| Pyogenic infections of skin and subcutaneous tissue | 16 | 1.3 | 57.1 | 26 | 0.9 |
| Cardiac arrhythmias | 17 | 1.3 | 58.4 | 45 | 0.4 |
| Pancreatitis | 18 | 1.1 | 59.5 | 50 | 0.2 |
| Arthritis | 19 | 1.1 | 60.6 | 30 | 0.8 |
| Gastrointestinal obstruction | 20 | 1.1 | 61.7 | 29 | 0.8 |
| Abdominal pain | 21 | 1.1 | 62.7 | 32 | 0.7 |
| Pulmonary embolism and infarction | 22 | 1.0 | 63.7 | 42 | 0.4 |
| Diabetes mellitus | 23 | 1.0 | 64.7 | 7 | 3.1 |
| Head injury (not associated with multiple trauma) | 24 | 0.9 | 65.6 | 38 | 0.5 |
| Appendicitis/appendectomy | 25 | 0.7 | 66.3 | 10 | 2.3 |
| Seizure disorder | 26 | 0.7 | 67.0 | 46 | 0.3 |
| Upper respiratory tract infection (including influenza) | 27 | 0.7 | 67.7 | 23 | 1.2 |
| Essential benign hypertension | 28 | 0.6 | 68.3 | 24 | 1.1 |
| Poisoning | 29 | 0.6 | 68.9 | 39 | 0.5 |
| Chronic obstructive pulmonary disease | 30 | 0.6 | 69.5 | 9 | 2.7 |

findings have been described before and support the concept that residency-trained family physicians have a practice pattern that is different from their predecessors'.

Affiliation with a health maintenance organization appears to have a substantial impact on family practice inpatient care, a finding which has not been described. Because of the HMO influence, family physicians at PNMC have a younger patient population. This results in more well-child care encounters and fewer geriatric encounters. The younger age group may explain some of the reduced hospital workload, because younger patients require less hospital care. Also, capitated prepaid care for patients enrolled in an HMO is a stimulus to lower hospital utilization, and it appears to have reduced the hospital workload of PNMC family physicians. The small drop in number of admissions between 1983 and 1984 reflects a longstanding clinic attempt to avoid unnecessary admissions. However, recent changes in patient care have more dramatically shortened the length of stay for several treatments. Early discharge policies for pregnancy and well-child care combined with an outpatient newborn family care program shorten the routine postpartum stay from three days to two. Similarly, a home phototherapy program has eliminated the need to extend the hospitalization of a newborn for treatment of idiopathic hyperbilirubinemia. Other home care programs for back pain and intravenous antibiotics have also shortened hospital stay. These steps have resulted in a decline in the number of hospital encounters for family practice physicians.

The use of a consultation as a method to attain cost-efficient and high-quality care is a maxim for multispecialty group practice. Although in some HMO settings there may be a stimulus to diminish use of consultation, PNMC physicians are not financially penalized for sharing responsibilities with other specialties, as reflected in the high rate of consultations for patients admitted by family physicians. It is also demonstrated in the shared responsibilities involving family physicians for patients admitted to other specialties. Thus, the diagnosis clusters describing inpatient family practice at PNMC should be interpreted with the understanding that many patients are also seen by consultants. For example, inpatient orthopedics total 4.1% of all encounters. Review of charts demonstrates that orthopedic consultation was obtained for all fractures except a small number of stable spine and pelvic fractures. Similarly, malignant neoplasm ranks high, but

**TABLE 5**
Inpatient care shared with other specialties

| | Percent | No. |
|---|---|---|
| FP admissions without consultation | 34% | 773 |
| FP admissions with consultation | 39 | 876 |
| Other specialty admissions, FP encounter | 27 | 611 |
| TOTAL | 100 | 2,260 |

**TABLE 6**
Rate of consultation by diagnosis cluster

| Cluster Title | Percent Consultation |
|---|---|
| Well-child care | 32% |
| Pregnancy | 19 |
| Back pain | 81 |
| Cerebrovascular disease | 95 |
| Malignant neoplasm | 96 |
| Ischemic heart disease (including myocardial infarction) | 88 |
| Fractures/dislocations (excluding femur, skull, and all late effects) | 94 |
| Congestive heart failure | 66 |
| Kidney stone | 67 |
| Pneumonia | 40 |
| Chest pain | 45 |
| Disease of intestine and peritoneum | 50 |

review of charts shows that medical or surgical subspecialists, including oncologists, consulted in all cases but two. It is suspected that the acute management of inpatients with cancer or fractures is undertaken mainly by specialists other than family physicians.

## Summary

In summary, this study describes the content of inpatient family practice for a small but growing segment of family physicians. The inhospital workload was found to be less than what has been described, and in decline. The patient population was younger and the content of practice favored medical, obstetrical, and well-child care, with fewer surgically related problems. Finally, the high rate of consultation shows that most diagnoses are not managed by family physicians alone. The extent to which this study represents a future trend for family practice will depend upon the way in which health care is organized in the coming years.

## Acknowledgment

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*Charles McCoy and Kenneth Olson are family physicians at Park Nicollet Medical Center and share an interest in health services research. Jacqueline Vos is a biostatistician, and Margaret Healey is clinical studies coordinator at the Health Services Research Center, Park Nicollet Medical Foundation.*

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# Collective Negotiation through PPOs

*Margo S. Struthers, Esq.*

As discussed in the January issue of *Minnesota Medicine* ("Is Collective Bargaining the Answer?"), it is unlikely that competing physicians can engage in collective bargaining with third-party payers through a labor representative without risking violating the antitrust laws (unless the physicians are employed by the HMO or other third-party payer). Collective negotiation through a preferred provider organization (PPO) is another possible means of achieving greater physician bargaining power in negotiations with HMOs and other third-party payers, but this, too, has some antitrust and other risks.

A combination of competitors that has either the purpose or effect of raising, lowering, or stabilizing prices, directly or indirectly, is illegal as price fixing, in the absence of an exemption from the antitrust laws. If physicians join together to form an entity that fixes the fees charged by those physicians, that entity may be deemed to have no existence separate from its participating physicians. If so, the participating physicians are "horizontal" competitors engaged in price fixing, which is illegal per se. That was the United States Supreme Court's holding in the often-cited case, *Arizona v. Maricopa Medical Society*, 457 U.S. 332 (1982).

To avoid allegations of price fixing resulting from collective fee negotiations, a PPO must, therefore, be recognized as a single entity, separate from its physician participants, rather than viewed as a group of individual competitors. For this to happen, the physicians' practices must be "integrated." On one end of the spectrum of integration is a multispecialty clinic in which the physician members have no individual, competing practices, but instead practice as a single entity. Clearly, this would be sufficient integration to avoid application of the antitrust laws to pricing decisions in negotiations with third-party payers. At the other end of the spectrum is a group of physicians (at least some of whom practice in the same specialty and geographic areas) that joins together solely for the purpose of bargaining with respect to fees to be paid by a third-party payer. In this case, the individual physicians continue to practice independently and to compete with each other for patients. This is not sufficient integration, according to the Federal Trade Commission (FTC), which recently issued a cease-and-desist order to a group of 31 anesthesiologists who negotiated collectively with a third-party payer in Rochester, New York (*Rochester Anesthesiologists*, 52 *Fed. Reg.* 44,408 [November 18, 1987]). Presumably, somewhere in the middle is an entity made up of competitors who have sufficiently integrated their practices to be viewed as a single entity for purposes of price fixing analysis, but who have retained, to some extent, their individual competing practices.

In *Maricopa*, the Court considered it important whether the physicians "pool[ed] their capital and share[d] the risk of loss as well as the opportunities for profit" in determining whether sufficient integration existed. If such pooling of capital and sharing of risk of loss and opportunities for profit exists, a PPO might be deemed to be a single entity and not a group of individual competitors. The Court in *Maricopa* did not provide much specific guidance concerning what constitutes sufficient integration to allow physicians to bargain collectively on prices. However, factors thought to be significant include the amount of capital expenditures and operating expenses shared by the physicians, any fee discounts and withholds that might be at risk, depending upon the utilization experience of covered persons, and the use of the capitation method of payment, which would allow for sharing of risk among various physician groups.

Recently, the FTC issued a proposed consent order that provides insight into its position on how much integration is needed to permit collective negotiations through a PPO controlled by competing physicians (*In the matter of Preferred Physicians Inc.*, FTC File No. 861-0014, December 2, 1987). Preferred Physicians Inc. (PPI) is a PPO comprised of a majority of the active medical staff at a hospital in Tulsa, Oklahoma. The FTC complaint states that PPI has over 250 members, all of whom have hospital privileges at St. Francis Hospital, and more than 174 of whom are on the 251-member active medical staff at St. Francis Hospital. The complaint alleges, therefore, that PPI's members can effectively control access to St. Francis Hospital. The complaint also states that St. Francis is generally recognized as the leading hospital in the Tulsa area in terms of size, reputation, price, and quality of services. Some large employers in Tulsa are hesitant, according to the FTC, to offer any health benefits plan that does not include coverage for services received at St. Francis. The FTC concluded that any physician group that controls access to St. Francis Hospital has substantial leverage with third-party payers in Tulsa.

The complaint alleges that in about 1984, many of the physicians at St. Francis Hospital decided not to compete with each other with respect to whether, and on what terms, to contract with third-party payers. The complaint states that to implement their agreement not to compete with each other they formed PPI "to negotiate on their behalf with third-party payers." Their purpose, it says, was to "resist competitive pressures to discount fees and to avoid accepting reimbursement on any basis other than the traditional fee-for-service method of payment for physician services." The complaint further alleges that PPI acted as a combination of its members and conspired with some of them to implement the agreement to restrain competition among themselves through negotiation of the terms and conditions of agreements between PPI's members and third-party payers, including the prices to be paid for services, and that individual members would not negotiate directly with third-party payers. In addition, the complaint alleges that PPI's members took a uniform position on the prices to be sought from third-party payers. According to the FTC, the starting point for price negotiations with third-party payers was the physician fee schedule used by the St. Francis Hospital PPO, apparently a separate PPO.

**Ironically, the FTC may be encouraging PPOs to enter into arrangements that raise conflicts with state regulatory authorities.**

The FTC concluded that PPI had restrained competition among physicians in the area and had fixed or increased the prices that physicians in the Tulsa area charged for their services. The FTC also concluded that PPI had deprived third-party payers and their subscribers of the benefits of competition among physicians in the Tulsa area. Consequently, the FTC ordered PPI and its participating physicians to cease and desist from "entering into, attempting to enter into, organizing, implementing, or continuing any agreement or understanding, express or implied, with any PPI member or among any PPI members, to deal with any third-party payer on collectively determined terms," including "acting on behalf of any PPI member or members to negotiate with any third-party payer" and "communicating that PPI members will refuse to enter into or withdraw from any agreement, actual or proposed, with any third-party payer if any term or condition is not acceptable to PPI or to PPI members collectively." The order also prohibits PPI from "providing comments or advice to any PPI member on the desirability or appropriateness of any price to be paid for physicians' services by any third-party payer, including, but not limited to, advice that any PPI member refuse to enter into or withdraw from any agreement, actual or proposed, with any third-party payer because of the price to be paid for physicians' services" for a period of five years after the order is served.

Of particular interest is that the proposed order specifically provides that nothing in the order would prevent PPI from:

(1) forming or becoming an integrated joint venture and dealing with any third-party payer on collectively determined terms in that capacity, as long as the physicians participating in the joint venture remain free to deal with any third-party payer other than through the joint venture; or

(2) upon the request of a third-party payer, performing utilization review or credentialing activities in connection with the provision of services by PPI members to subscribers of the third-party payer.

The proposed order defines an "integrated joint venture" as:

> *a joint arrangement to provide prepaid health care services in which physicians who would otherwise be competitors pool their capital to finance the venture, by themselves or together with others, and share substantial risk of adverse financial results caused by unexpectedly high utilization or costs of health care services.*

This definition of "integrated joint venture" raises new questions about the integration that will be required for a group of physicians to be viewed as a single entity rather than as a combination of competitors. This order requires physicians to "share substantial risk of adverse financial results," and raises the question of whether the mere discounting of fees could ever meet these requirements for integration. The proposed order suggests that it is the FTC's position that the necessary risk sharing must go beyond a capital contribution and a discounted fee arrangement to require, perhaps, a substantial withhold or capitation payment mechanism.

The specific facts in the PPI case may be determinative. For example, the FTC concluded that the purpose behind the establishment of PPI was anti-competitive. Under other facts, a PPO might be able to show that its purpose was to permit it to compete more effectively with others rather than to "resist competitive pressures to discount fees," as the FTC concluded with respect to PPI. Another very important fact is that PPI was made up of nearly 70 percent of the physicians in what the FTC apparently considered to be the relevant market. PPOs and their counsel will need to look carefully at the specific facts in analyzing the applicability of this proposed FTC order to their operations.

This proposed order also raised interesting questions concerning

**PPOs** *to page 226*

L. ASHLEY WHITESELL, M.D.

**PRESIDENT'S LETTER**

# Medical Education: The Arduous Journey Leads to More Challenges

In light of all the pressures on physicians in organized medicine today, is the arduous journey from college student to practicing physician really worth it? The special medical education issue of *JAMA* last August gave a good in-depth analysis of recent trends in medical education and outlined a number of problems. It's an accepted fact that we are training too many physicians and that too many of them go into medical, surgical, and support specialties rather than primary care, says Robert Petersdorf, president of the American Association of Medical Colleges (AAMC).

The number of medical students has grown consistently for two decades. Only now does enrollment appear to be shrinking. Still, the total revenues generated, expenditures, research activities, and the number of full-time faculty, and other measures of the total enterprise continue to increase. The number of U.S. medical schools grew from 86 in 1960, to 127 in 1987. The number of medical school graduates more than doubled over the past 20 years, from 7,743 in 1967, to an estimated 15,872 in 1987. The numbers peaked at 16,227 in 1983-84. For the 1986-87 academic year there were 31,323 applicants to U.S. medical schools, 1,570 fewer than the previous year, and the ratio of all applicants to accepted applicants is dropping too.

This decline has raised concern among medical educators that the quality of students could erode if the applicant pool continues to shrink. An unpublished report from the University of Minnesota, however, shows that despite the decline in the number of applicants, the quality of applicants has not decreased, at least not as measured by grade-point averages.

What impact do finances have on medical education? Medical school tuition and fees increased approximately 8 percent from 1985 to 1986, the same as the preceding year. As in 1984-85, service income accounted for one-third of total revenues, federal funds about one-fourth, and tuition about 6 percent, according to an AAMC report. The report notes that financial aid to medical students increased 4.2 percent over 1984-85, with loans accounting for more than 76 percent of that assistance. Students graduated in 1986 with an average debt of $33,500. Nearly 18 percent had debts topping $50,000. This has had an especially adverse impact on minority students, who usually do not have the family resources to support them.

Burdened with debt and heavy with new knowledge, graduates face further uncertainties. Residencies take from three to seven years to complete. The hours are long. Pay is low. Responsibilities are enormous. An editorial in the August 27, 1987, *JAMA* highlights the "unprecedented changes in medical knowledge and practice as having created serious and diverse challenges in medical education." Health policy changes that are not always on target and increased public demand for professional accountability mean more students and more schools are putting pressure on the medical community to respond to these challenges in innovative and effective ways. The American graduate medical education system is the finest in the world, according to Drs. Carlos Martini and M. Roy Schwarz, authors of the *JAMA* editorial. But many problems, including Medicare cuts, threaten graduate medical education and promise to affect quality of training, they say.

What sort of future does continuing education hold for those who have completed their undergraduate and graduate training? New doctors will learn firsthand of the problems facing our profession today. They will have to deal with decreases in federal spending; increases in federal and state regulations; prepaid medicine under HMOs and PPOs—the so-called managed care, which sometimes puts physicians in an adversarial position with their patients; rising malpractice threats; the practice of defensive medicine, which increases the cost of delivering care; and, in Minnesota at least, an increase in group practice; plus other factors contributing to a loss of professional autonomy.

I believe the mission of organized medicine is to maintain the standards of the profession so we can continue to train the finest students to become the finest physicians in the world.

A plan for the expanded development of the AMA's medical school section is outlined in Report PP of the Board of Trustees to the Interim Meeting of the AMA in December 1987. It lays out very nicely short- and long-term goals for strengthening the section and improving interaction between physicians and those in training. This is vital to our ability to maintain standards and to meet the challenges we face in educating tomorrow's doctors.

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# Choosing the Right Retirement Plan for Your Practice

*Lynda M. Soleim, C.F.P.*

Having a retirement plan is of key importance these days—as a means of tax deduction and deferral, as a necessary benefit to attract and retain valuable employees, and as a method of obtaining assets for retirement. Because many changes in the law affect qualified plans, it is imperative to understand the types of plans available and to review your current plan if you have already established one. All plans must be amended in 1988 to comply with the Tax Reform Act of 1986.

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- Do you want to maximize your tax deduction?
- Do you want to make varying contributions year to year?
- Do you and your employees want to make voluntary pretax contributions?
- Do you want or need to reward particular employees?
- Is simplicity a big concern?

With the right planning, you can choose (within the limits of the law) who will be eligible, how the vesting schedule will work, whether you want a loan provision, whether you will allow voluntary contributions, and more. Each type of retirement plan provides a few key advantages so you may choose a plan that best suits your needs. It is important to remember that:

- There is an immediate tax deduction of contributions made to a qualified plan.
- Contributions are not taxable to employees as current income.
- All money accumulates tax-deferred until paid out.

## Basic Facts and Features

**Profit-sharing plans:** The profit-sharing plan is the one used most frequently by corporations and the self-employed. The flexible nature of the profit-sharing plan provides for generous tax-deductible contributions in high-profit years and lower contributions if profits are reduced. The annual maximum you may contribute is the lesser of 15 percent of an employee's compensation or $30,000. In addition, contributions can be made to a non-qualified plan.

*Advantages*

- The plan allows maximum contribution flexibility. You may contribute 15 percent one year and zero the next.
- The plan is easy to administer and terminate.
- Retirement benefits will be increased through positive investment results.
- The plan provides a way for employees to identify with and participate in profitability of the practice.

*Disadvantages*

- This plan, by itself, will not give the employer a maximum contribution deduction.
- Employee morale could be affected if contributions are not made.

**401(k) arrangement:** A 401(k) plan is a profit-sharing plan that allows employees to make pretax contributions to the retirement plan. Money is contributed to the plan through a salary reduction agreement in which the employee elects to reduce his or her compensation.

Employees may elect to defer a percentage of salary up to $7,313 per year, which is adjusted annually for changes in the CPI. This percentage may change from year to year. Keep in mind that 401(k) plans have to meet anti-discrimination tests, which means that the amount higher-paid employees may contribute is dependent upon the contributions of lower-paid employees.

*Advantages*

- Reduced cost. Because employees are at least partially funding their own plans, the cost to the practice of funding the plan is eased.
- Personal taxation. The 401(k) plans are funded through salary reduction. An employee may reduce his or her taxable income by up to $7,313.

*Disadvantages*

- Complexity. A 401(k) plan has strict antidiscrimination tests and more reporting requirements.
- Administrative fees. The 401(k) plans are more costly to administer than regular profit-sharing plans.
- Matching contributions. Employer matching contributions are often necessary as an incentive for lower-paid employees to contribute.

**Money purchase pension:** A money purchase pension plan is often referred to as a "simple" pension plan, and it is used by both corporations and the self-employed. It allows contributions of a higher maximum percentage—

the lesser of 25 percent of compensation or $30,000—-than does the profit-sharing plan.

With the money purchase plan, you are obligated to contribute a predetermined percentage of each eligible employee's compensation. This contribution is mandatory. It is very common to establish both a money purchase and a profit-sharing plan, which allows the flexibility of the profit-sharing plan and a lower mandatory contribution to the money purchase pension. For example, you may set the percentage contribution at 10 percent for the money purchase pension and then contribute to a profit-sharing plan anywhere from zero to 15 percent.

*Advantages*

- ► Greater tax savings. The ability to contribute up to 25 percent or $30,000 per year creates a greater tax benefit.
- ► Superior retirement benefits are provided.
- ► Retirement benefits will be increased through positive investment results.

*Disadvantages*

- ► Not flexible. There is a fixed employer contribution commitment for the money purchase pension plan.
- ► Administrative fees are higher if both money purchase and profit-sharing plans are used.

**Defined-benefit plan:** With a defined-benefit plan the employer promises to pay a guaranteed amount to an employee at retirement. The maximum benefit this plan may provide is $94,023 per year or 100 percent of highest annual compensation in three years of employment. An actuary is needed to determine contributions that must be made each year. Some of the factors that must be considered include age, compensation, and investment performance. The defined-benefit plan is ideal for funding a large benefit for older employees, usually 45 years of age or older, since a pool of assets must be accumulated to pay a yearly benefit at retirement. For example, if an employee is already 50, he or she should have 15 years remaining to fund a yearly benefit of potentially $94,023 per year. A 30-year-old employee, by contrast, would have 35 years to accumulate funds and would require a significantly smaller contribution.

*Advantages*

- ► The plan benefits older employees and reduces funding for younger ones.
- ► The plan provides a fixed benefit. A participant knows he or she will receive a fixed amount at retirement.
- ► Largest tax deduction potential. Depending on age and compensation, employees may receive contributions as high as 100 percent of their compensation.

*Disadvantages*

- ► High cost. Administrative and actuarial costs are generally higher than for other plans.
- ► Mandatory contributions. An actuary will determine a yearly contribution amount and these amounts may vary significantly.
- ► Positive investment results will not enhance retirement benefits.

## How to Choose a Plan

As you can see, there are several different types of plans, each with its own advantages. The right type of plan for you or your practice may mean flexible or fixed contribution levels; it may mean employees would have the opportunity to fund their own plans through a 401(k) salary reduction program, or that a fixed benefit would be paid out each year after retirement. You may want your employees to be eligible immediately or have a waiting period, or become vested over a certain number of years. Understanding these options can help you choose the best one for your practice.

*Lynda Soleim is vice president of Select Benefits, Inc., a Minneapolis-based firm specializing in retirement plan administration services.*

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## **PPOs** from page 222

possible boycotts by PPOs. The FTC, in this and other recent proposed orders, suggests that physicians participating in any joint venture (even if integrated) must remain free to deal with any third-party payer other than through the joint venture. This suggests that the FTC believes that the threat of a boycott is inherent in collective negotiations. This is another issue provider-controlled PPOs will need to analyze.

It is necessary to review not only the antitrust implications in connection with PPOs, but also other issues relating to these arrangements such as insurance, HMO and preferred provider organization regulation, corporate practice of medicine prohibitions, fee splitting and Medicare/Medicaid fraud and abuse prohibitions, affiliated service group rules applicable to qualified plans, issues related to professional liability, and other issues related to reimbursement under government programs. Ironically, the FTC, by suggesting that greater risk sharing is required to achieve the necessary integration, may encourage PPOs to enter into arrangements that could give rise to conflicts with state regulatory authorities concerning whether the unauthorized business of insurance is involved. In the past, the Minnesota commissioner of commerce has questioned the authority of providers to take on risk under circumstances in which they have no ability to control utilization, even in an HMO context. The authority to share risk in a PPO is even less clear and, therefore, more likely to be subject to challenge as the unauthorized business of insurance.

In summary, collective negotiation through PPOs still appears to be an option for physicians (or physicians and hospitals) so long as the purpose is proper, the size is limited, and the structure and operations of the PPOs are carefully developed and monitored, with adequate consideration given to the legal issues raised.

*Margo Struthers is an attorney in the Minneapolis firm of Moss & Barnett.*

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**Ehlen** from page 122

serve resources in 1986, we realized the company had failed to identify what was happening early enough. PHP's concept of a physicians' contingency reserve as a motivator for conserving resources works beautifully as long as the motivation is positive. As soon as it becomes a negative reinforcement, i.e., nonpayment of that contingency reserve, the concept doesn't work very well. It doesn't work because you're trying to reinforce behavior after the fact—long after the fact. That kind of reinforcement simply brings ill will to the surface.

PHP should have recognized the potential for this ill will long before it occurred, but physicians and PHP were both complacent. Doctors need timely feedback on utilization so they can change and make midcourse corrections.

**REECE** *Early on, the media called you one of the "dissidents" of the PHP Oversight Committee. When the newly appointed board assumed control after the settlement, critics said you would have to confront reality. You would be faced with limited dollars; you would be confronted with the constraints of the market; and you would realize you had too many doctors in the system. Reality, in short, would descend upon you and change your attitude. What do you say to the critics now?*

**EHLEN** I would like to clarify how I saw the events unfold. The Oversight Committee succeeded, not because of our own doing, but because of three events that came together at the same time—the recognized flaws in the PHP-United contract, the need for physicians to express themselves, and the failure to return the contingency reserve.

The nonreturn of the physician contingency reserve was not the major concern of the Oversight Committee. From the first, the focus of the committee was to address problems in the relationship between PHP and United HealthCare. I have the uncomfortable feeling that there might still be a battle with PHP had it not been for the unfortunate events that have defined our reserve arrangement.

**REECE** *You've had four months on the job, what do you plan to do?*

**EHLEN** I'm excited because I see identifiable, measurable, and sensible changes occurring. PHP is developing a strong strategic plan. A company like this has to know where it's going. It's clear that we have to meet the needs of our physicians as well as other providers and balance those needs with consumer needs. Those needs, by definition, have not been met. Because of it, we have an unstable physician network.

Our No. 1 priority is to stabilize that network. Stability will come from a clearer understanding by PHP of doctors' needs. The doctors need more information and a clear understanding of the information that goes into the decision-making process at PHP. They need to understand how their day-to-day practices can affect their long-term arrangement with the plan.

It's our responsibility as a plan to let physicians know how to better utilize resources. As an example, it would benefit a primary care doctor to know where a test of equal quality can be done for less cost. The cost of a mammogram, for example, varies greatly across this market area. It's the responsibility of the plan to identify where we can help the provider conserve resources and yet continue to provide quality medicine.

Quality of care is a major concern. Quality of care cannot be compromised. If that happens, we will have failed in our efforts to help with PHP. A great deal of quality assurance work will be necessary in a managed health care environment.

Management of information I've already alluded to is one of the most important issues. It's essential that United HealthCare provide us, both PHP and physicians, with the most accurate and useful information we can have. This will help determine the size of our provider network.

One widely circulated rumor predicts that PHP's provider network may be reduced. All of the causes for change in the size of the network are not clear. I believe the size of the provider network should change naturally. I think PHP will retain those physicians who, when provided with information they need, can respond to that information and use it to help them manage resources. This, along with careful, effective administration will permit a return on our professional services that will be consistent with our needs.

It's clear to me that not all doctors are willing to respond to and exchange information in order to maintain the quality of care they want. If they are unwilling, they may choose to leave the network. Our task is to make sure that we provide a relationship between PHP and physicians that retains the high-quality doctors.

**REECE** *I'm now going to play a word-association game with you. I'm going to list a series of items that concern doctors. I want your brief comments. One, the survival of PHP.*

**EHLEN** If I didn't think PHP would survive, I wouldn't be doing what I'm doing. PHP will survive. It will survive because it will have a more clear and comfortable relationship with its management company, United HealthCare. It will survive because its network, doctors and hospitals alike, will have a clear and more comfortable relationship with the plan. It will provide doctors with a level of income that will satisfy them and allow them to deliver the high quality of care they're used to providing.

**REECE** *Two, premium increases for 1988.*

**EHLEN** Premium increases for 1988 have occurred. Purchasers of health care have recognized the need to increase premiums and have been willing to act. Across the industry premiums have gone up, and I believe that we are seeing the first in a series of premium increases that will provide the revenues necessary to continue to deliver quality health care. In turn, resource management must be aggressive and effective.

**REECE** *What is the magnitude of these premium increases?*

**EHLEN** Each purchaser, of course, has a different contract, and the range of premium increases across the industry goes from 8-35%. An average at PHP is roughly 14-15%.

**REECE** *Three, fee increases for physicians and the fate of the contingency reserve in 1988.*

**EHLEN** Fee increases for physicians have already occurred at PHP. On February 1, there was a 9% increase for cognitive services, the nonprocedural activities most physicians participate in to some extent. Historically, the need for fee increases for these services has gone unrecognized. I cannot at this point project what the next increase will be or what form it will take, but it's clear to me that the February 1 increase is the first in a series of steps that will have to occur to stabilize the provider network.

I stated in a recent letter that 1987 was a difficult year in the industry. It was difficult year for PHP. The contingency reserve return is anticipated to be a reflection of those troubled times. We will have the fourth-quarter information we need to make conclusions about the contingency reserve sometime at the end of March.

**REECE** *PHP reserves are numbered in days or weeks. In the state Legislature now a bill is incubating that says HMOs will have to set aside 60 days of premiums as reserves.*

**EHLEN** PHP has maintained a reserve fund between $8 million and $15 million. In an operation of our magnitude, that's about two weeks of claims. The current legislation is going to look at and likely call for the retention of some 60 days of reserves. That bill will have been addressed when this interview is printed. We're doing all that we can to assist in the development of this concept. It seems like a logical and necessary reserve. In many ways, an HMO like PHP is an insurance company. The insurance industry requires reserves for stability, and in our somewhat unstable HMO industry that makes good sense.

I do not believe that the establishment of a reserve should come out of the pockets of the providers. It will have to be passed through the purchasers of health care in the form of premium increases, as I see it.

**REECE** *Four, the significance of George Morrow's resignation.*

**EHLEN** I've said publicly that I'm sorry to see George Morrow leave, and I mean it. George and I began on a tentative basis, as might be expected. Over the last four months, I have developed a high level of respect for his talents as a leader and a manager.

Mr. Morrow's leaving, however, will serve as a symbol to physicians that changes are occurring at PHP, and changes are necessary to make this a more acceptable HMO for physicians.

**REECE** *Fifth, the "stability" of the*

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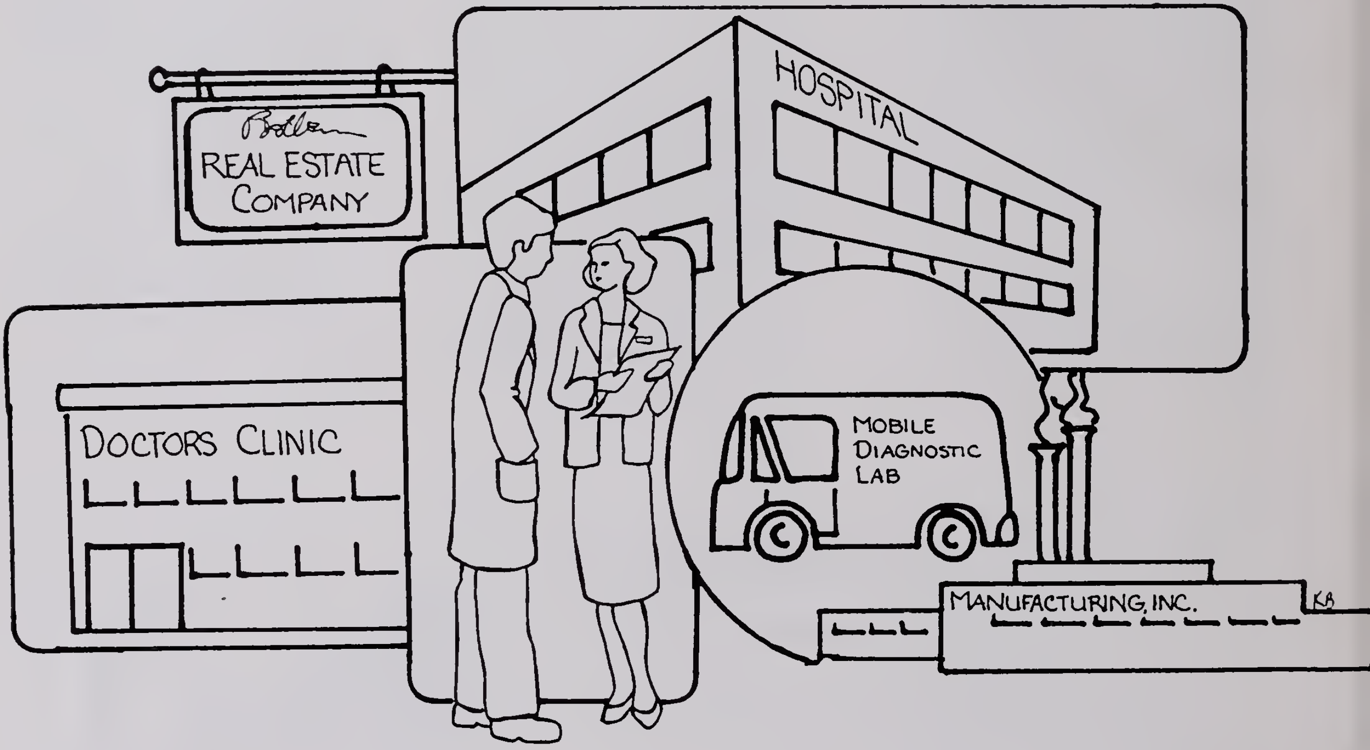

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*physician network. You mentioned several times that the physician provider network might be "unstable." Have you lost any doctors or have any threatened to leave?*

**EHLEN** The physician network is not as stable as it should be. PHP has over the last two years developed an unacceptable relationship with many doctors. I've already discussed the reasons for that. You can point fingers at many people—at United HealthCare, PHP, providers themselves. But, that's history. The instability is there. Stabilizing the provider network is a first priority for our board. We need to offer physicians a more equitable return on their work investment, and we need more confidence on both sides of the equation that we're working as partners in delivering good health care.

**REECE** *Among doctors there's been the widespread feeling that the cost of PHP management has been more than it should have been. Do you have any studies to indicate that this cost is any more or any less than the rest of the industry? What percent of the premium dollar is devoted to management?*

**EHLEN** Yes, we do have a good deal of information, but I'm not going to comment on it right now because it's politically sensitive. It's politically sensitive because it forms the basis for renegotiating our management contract with United HealthCare. That process is going on in a very positive and active way right now. It will soon be drawn to a close with a much more acceptable relationship for both United and PHP.

**REECE** *How long have these negotiations been going on, and when do you think they will end?*

**EHLEN** We began in December. I will be disappointed if we are not done by the end of March.

**REECE** *United HealthCare has a new chief operating officer, Kent Simmons. What is Richard Burke's current role?*

**EHLEN** Mr. Burke has stepped down from any active involvement at United HealthCare. His only official capacity, I believe, is as a member of the board of United HealthCare, and he is a shareholder in publicly traded shares of United HealthCare. He has no involvement in day-to-day operations. Mr. Simmons has taken a very forceful and positive leadership role at United HealthCare.

**REECE** *You've just been appointed acting chief executive officer of PHP to replace George Morrow. What are the implications of this? Does this mean you're changing careers? Does this mean that PHP is making a symbolic gesture to the physician community? What does this mean to you? How do you view your new position?*

**EHLEN** My new position is a logical extension of the role I've served as chairman of the board. The board has been very actively involved over the last four months. There's a gap right now with George Morrow leaving that must be filled. Management at United HealthCare and senior management at PHP believe I can fill this void on a temporary basis. It does imply a bigger time commitment to the plan right now, and I'm willing to give that commitment. It doesn't necessarily imply a career change, however, since I will continue in my practice as an endocrinologist.

**REECE** *What do you think the role of the physician should be in a managed health care system?*

**EHLEN** My instincts are that the physician must determine the role the health care manager will play in the delivery of health care. We almost lost all responsibility for determining the direction of managed health care. The physician has a central role in providing information, serving as a sounding board, and determining which relationships are acceptable and which are not. Physicians have an obligation to their patients to become active players in managed health care because their training and experience make physicians best able to determine quality care. This can't work in practice unless physicians also recognize that there are limits to what we as a society can afford.

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# NEWS CLIPS

## COMPETING FOR PATIENTS

Hospitals that faced the most competition for patients tended to keep patients longer after surgery, reports a recent study in the *Journal of the American Medical Association*. The study involved 498,454 surgical patients treated at 747 nonfederal hospitals in 1982. The report said hospitals in the most competitive markets reported average lengths of patient stay 16.9 percent higher than comparable hospitals that had no nearby neighbors.

## NEW PUBLIC HEALTH SERVICE PHYSICIAN

Ralph Reed, a physician from Lawrence, Kansas, has been appointed deputy assistant secretary for health of the Department of Health and Human Services. He becomes the top aide to Dr. Robert Windom, the No. 2 official at the agency, in helping oversee the Public Health Service.

## NORTH MEMORIAL'S MEDICAL AFFAIRS

Dr. Thomas O. Swallen recently was named director of medical affairs of North Memorial Medical Center.

In this newly created position, Swallen will supervise the medical center's staff office, provide support for medical staff officers, and act as liaison between the medical staff and North Memorial Medical Center administration.

## SOCIAL RESPONSIBILITY

Twin Cities physicians Arnold London and Thomas B. Mackenzie received the Broad Street Pump Award from Physicians for Social Responsibility last month. The award recognizes outstanding individual commitment to the prevention of nuclear war.

London, a St. Paul pediatrician, and Mackenzie, a St. Paul psychiatrist, co-founded the Twin Cities Chapter of Physicians for Social Responsibility in 1979.

## FAULTY MEDICARE CLAIMS

Hospitals inaccurately report one out of five Medicare claims, and most of the discrepancies result in overpayments to the hospitals by the government, according to a recent study by the Department of Health and Human Services. In most cases doctors had incorrectly described the diagnosis or procedures performed on the patient.

The misrepresentations reportedly cost the government more than $300 million a year. Medicare finances health care for more than 31 million elderly and disabled people. Medicare payments to hospitals totaled more than $43 billion in the fiscal year 1987, which ended September 30.

The evaluation of claims and admissions data was based on a review of 7,050 medical records from 239 hospitals chosen to be representative of the 6,000 hospitals participating in the Medicare program.

## FRIVOLOUS MALPRACTICE SUITS

In Illinois, attorneys can be sanctioned if their malpractice suits are found to be not "well-grounded in fact" after a "reasonable inquiry." Judges can now fine both lawyers and plaintiffs under the judicial code. Plaintiffs must show that their complaints have merit before their cases can proceed to trial. A four-year-old Illinois statute requires plaintiffs' attorneys to obtain the opinion of a qualified physician that there was a deviation from the prevailing standard of practice. This "certificate of merit" law has been credited with dramatically slowing the rate of filings.

## PRO FINANCIAL PROBLEMS

A survey conducted by the American Medical Peer Review Association revealed that four PROs are borrowing money, 17 had to reduce staff benefits, 23 have cut staff, and three have delayed paying their employees.

Twenty-three of the PROs surveyed have case backlogs, some exceeding two months.

*Source:* AMA-HMSS Governing Council

## LIABILITY FOR HMO RESTRICTIONS

The International Foundation of Employee Benefit Plans reports that employers may be legally liable for negligence in selecting physicians, insurers, or HMOs. In fact, an employer's legal liability may grow because of limiting employee choice of a medical provider. In addition, employers could be liable for employee beneficiary claims against a company-sponsored HMO or PPO. The greater the employer's control over provider decisions, when the employer receives a direct benefit, the greater the potential liability. The report concludes that although cost-containment measures generally are acceptable to employers, there is a point beyond which health care cost savings produce potential legal liability.

## THE COST OF AIDS

The war on AIDS will burden large U.S. cities with higher taxes and lower real estate values, but in the near future, the epidemic will have a slight effect on the national economy, a study says. Two economists, in a recent study in *Science* magazine, estimated that the lifetime cost of treating 270,000 AIDS cases—the predicted U.S. total between 1981 and 1991—will be about $22 billion, or about $80,000 per patient.

### LIMITED MALPRACTICE AWARDS

Florida's governor has signed into law a bill limiting the amount of money that patients can collect in some medical malpractice cases.

The law, passed by the Florida Legislature, sets liability caps on some malpractice awards and strengthens the state's ability to discipline bad doctors.

It allows the doctor or patient to request that an arbitration panel settle the case. That would limit the noneconomic damages, such as pain and suffering, paid by the doctor's insurance company to $250,000.

If the physician refused arbitration and a jury trial were held, noneconomic damages would be limited to $350,000. There is no cap on damages if both parties refuse arbitration and seek a jury trial.

The limits do not apply to actual damages, such as lost wages and medical bills.

### COSTLY HEALTH BENEFITS

The cost of providing health care benefits to employees increased to an average of $1,985 per worker, according to a recent poll of 2,016 corporate and government employers, which found that employee benefit costs rose 7.9 percent last year, an average of $128 per employee.

A. Foster Higgins & Co., which conducted the survey, claims the cost hikes are due to increases in the actual price of medical care supplied by doctors, hospitals, and other providers.

The survey found that 61 percent of the employers polled did not require employees to help foot the bill on individual coverage. But 88 percent did require their employees to pay a deductible.

### FEE DISCRIMINATION AGAINST FPs

The American Academy of Family Physicians (AAFP) may sue for equal pay. The Health Care Financing Administration (HCFA) has a rule that allows Medicare carriers to pay family physicians less than specialists for the same services. In 1986, the U.S. Supreme Court ruled in a Michigan case that Part-B Medicare payments should be determined only by the procedure performed. HCFA, however, says that the ruling applies only in Michigan, as it is not based on the issue of fee discrimination. If administrative efforts to resolve the dispute are unsuccessful, the AAFP plans to sue HCFA in U.S. District Court.

### ARBITRATION

The Michigan Supreme Court has ruled that a patient who agrees to arbitration in a state civil court waives his or her right to a jury trial. For the arbitration agreement to be declared void a patient would have to prove that he or she hadn't voluntarily entered into the agreement.

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**Action:** Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalmic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

**Indications:** Yocon® is indicated as a sympathicolytic and mydriatric. It may have activity as an aphrodisiac.

**Contraindications:** Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

**Warning:** Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

**Adverse Reactions:** Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.[1,2] Also dizziness, headache, skin flushing reported when used orally.[1,3]

**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence.[1,3,4] 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to ½ tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.[3]

**How Supplied:** Oral tablets of Yocon® 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

**References:**
1. A. Morales et al., New England Journal of Medicine: 1221. November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
4. A. Morales et al., The Journal of Urology 128: 45-47, 1982.

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# CME IN MINNESOTA

**Provided through the MMA Medical Education Subcommittee on CME Resources**

For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; (612) 378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

## APRIL 1988

7-8 **Allergy and Clinical Immunology** Office of CME, University of Minnesota; Mayo Auditorium, University of Minnesota, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

8 **Fourth Annual Duluth Health Conference** The Duluth Clinic, Ltd. and St. Mary's Medical Center; Fitger's Spirit of the North Theater, 600 East Superior Street, Duluth, Minnesota. CONTACT: James G. Brueggemann, M.D., 400 East Third Street, Duluth, Minnesota 55805; (218) 722-8364, ext. 179.

8 **First Annual John I. Coe Symposium** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220 (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

8-9 **Midwest American Academy of Psychiatry & Law Conference** Hennepin County Medical Center/Hennepin Faculty Associates; City Center Mariott Hotel, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220 (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

8-9 **The Traumatized Child** Abbott Northwestern Hospital; Marriott City Center Hotel, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

11-12 **Medical Retina Update** Office of CME, University of Minnesota; Holiday Inn Downtown, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

11-12 **Advanced Trauma Life Support Seminar** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota 55415. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220 (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

11-13 **Bone and Soft Tissue Tumors Course** Mayo Clinic/Mayo Foundation; Hyatt Orlando, Orlando, Florida. CONTACT: Rita Kunz, 200 First Street SW, Rochester, Minnesota 55905; (507) 284-2509.

14-15 **Pediatric Days** Mayo Clinic/Mayo Foundation; Mayo Clinic, Rochester, Minnesota. CONTACT: Rita Kunz, 200 First Street SW, Rochester, Minnesota 55905; (507) 284-2509.

15 **Reproductive Ethics: Beyond Baby M** Office of CME, University of Minnesota; Radisson University Hotel, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

15-16 **11th Annual Update in Clinical Cardiology** Abbott Northwestern Hospital; Radisson Plaza Hotel, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

19 **Hematology for the Small Laboratory** Office of CME, University of Minnesota; 555 Diehl Hall, 505 Essex Street SE, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

19 **Obstetrics-Gynecology-CME** Mesabi Regional Medical Cetner; Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746; (218) 262-4881.

22-23 **Colorectal Diseases** Office of CME, University of Minnesota; Holiday Inn Downtown, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

23 **Minnesota Urological Society Annual Spring Seminar** Minnesota Urological Society; Fitger Inn, 600 East Superior Street, Duluth, Minnesota. CONTACT: Rosann Fischer/John A. Soucheray, M.D., 6750 France Avenue South, Suite 149, Edina, Minnesota 55435; (612) 925-0533.

28-29 **Tenth Midwest Clinical Toxicology Update, Emergency Management of Poisoning** Hennepin County Medical Center/St. Paul-Ramsey Medical Center; St. Paul Ramsey-Medical Center, St. Paul, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220 (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

## MAY 1988

2-6 **Family Practice Review: Update 1988** Office of CME, University of Minnesota; Radisson Hotel South, Bloomington, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

5-6 **General and Peripheral Vascular Laser Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

11-12 **Human Aging: Behavior Problems in the Elderly** CME, Medical School, University of Minnesota; Mayo Memorial Auditorium, 420 Delaware Street, SE, Minneapolis, Minnesota. CONTACT: Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55112; (612) 626-5525.

14 **Pediatric Neurology: Common Issues for the Primary Care Practitioner** Minneapolis Children's Medical Center; Minneapolis Children's Medical Center, 2525 Chicago Avenue South, Minneapolis, Minnesota. CONTACT: Kathy Ingerson, 2525 Chicago Avenue South, Minneapolis, Minnesota 55404; (612) 863-5884.

14-15 **Laser Surgery in Dermatology** Office of CME, University of Minnesota; 3-110 MoosT, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

16-17 **Changing Health Care Spheres: The Effects on the Perinatal Patient and Provider** Great Plains Organization for Perinatal Health Care; Sheraton Park Place, Minneapolis, Minnesota. CONTACT: Mary McClung, Box 5039, 1100 South Euclid Avenue, Sioux Falls, South Dakota 57117; (605) 333-7191.

17 **Gynecologic Oncology** Office of CME, University of Minnesota; Radisson University Hotel, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

18 **Sports Medicine - CME** Mesabi Regional Medical Center; Mesabi Regional Medical Center, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746; (218) 262-4881, Ext. 259.

18-20 **Current Concepts in Radiation Therapy** Office of CME, University of Minnesota; Radisson University Hotel, 615 Washington Avenue SE, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

18-31 **Spain and Portugal** North Central Medical Conference. CONTACT: Harold Brunn, North Central Medical Conference, 1845 Hampshire Avenue, Suite 200, St. Paul, Minnesota 55116; (612) 698-1818.

19 **Twin Cities Tutorials, Cardiovascular Medicine** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220 (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

20-21 **Cardiovascular Medicine** Park Nicollet Medical Foundation; Naegele Auditorium, Minneapolis, Minnesota. CONTACT: Elaine Anderson, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3703.

20-22 **International Mucopolysaccharidosis Congress** Office of CME, University of Minnesota; Radisson University Hotel, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

## JUNE 1988

3-5 **Maxillofacial Trauma** Office of CME, University of Minnesota; Health Sciences Center, University of Minnesota, 515 Delaware Street SE, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

8-10 **Computer-Based Medical Systems** Office of CME, University of Minnesota; Hyatt Regency Hotel, 1300 Nicollet Mall, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

8-10 **World Med '88** Office of CME, University of Minnesota; Hyatt Regency Hotel, 1300 Nicollet Mall, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

8-11 **Orthopaedic Surgery Review** Office of CME, University of Minnesota; Radisson Plaza Hotel, 35 South 7th Street, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

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In response to growth in our area and in conjunction with our Corporate Plan we are looking for board certified or board eligible physicians specializing in Family Practice, OB/GYN, and Internal Medicine to join our organization. Bartron Clinic is a well established broad-based medical facility affiliated with Prairie Lake Health Care Center. Our primary facility is located in Watertown, South Dakota.

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**Green Bay, Wisconsin:** 28-physician multispecialty group seeking BC/BE physicians in the following specialties: Family Practice, Pulmonology, Pediatrics, ENT, and Anesthesiology. Green Bay is a progressive community with an easy lifestyle, ample outdoor activities, excellent schools and cultural activities. The clinic offers competitive salary and excellent fringe benefits. Please send CV to: P.M. Kindrachuk, Administrator, West Side Clinic, s.c., Box 19070, Green Bay, Wisconsin 54307-9070. 4-4/88

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**For Sale: General Practice** Roseville area. Includes office equipment and leased office space for 1-2 doctors. Call after 6 p.m. for more information (612) 633-9093. (R)

**Family Physician** to join the medical staff of two family practitioners in a well-established, growing clinic in central Minnesota, along the southern shores of beautiful Mille Lacs Lake. Excellent sub-specialty support, progressive salary and fringe benefit program. Call collect, (612) 676-3661, or write c/o Nancy Swenson, Clinic Manager, Mille Lacs Family Health Center, PO Box 53, Isle, Minnesota 56342.5-4/88

**Family Practice Opportunity:** Two-doctor clinic to add third family practitioner, summer of 1988. Shared call with 9 family practitioner-affiliated clinic. Close specialty back-up. 288-bed facility. 6,000 population community in northwest Twin Cities suburb. Competitive Twin Cities' area salary and excellent benefits. If interested, contact: Dr. James Walker at (612) 421-3680 (office), or 427-5704 (home) or Mr. Richard Moore at (612) 421-3680. 6-5/88

**Internist BE/BC** to join two young internists in growing practice in Michigan's beautiful Upper Peninsula. New local hospital. Campus for Michigan State University Medical School. Community of 15,000. Send CV or call: Drs. Spender and Kuehnl, 218 South 10th Street, Escanaba, Michigan 49829; (906) 786-1563. (R)

**Southwestern Minnesota Community** of 1,500 is seeking a primary care physician to join another physician in an active family practice (non-HMO) clinic. A 17-bed hospital and 41-bed intermediate care nursing facility are located within the community. Excellent location and potential for personable, aggressive individual in a quiet, rural setting. Preferred BC/BE. Send inquiries to: Timonthy E. Nealy, M.D., Adrian Medical Clinic, Adrian, Minnesota 56110, (507) 483-2845; or Charlotte Heitkamp, Administrator, Arnold Memorial Hospital, Adrian, Minnesota 56110-0279; (507) 483-2668. (R)

**Family Physician** who enjoys obstetrics wanted to join a progressive family-practice-oriented group in Wadena, Minnesota. This is an excellent opportunity for a self-starter who enjoys work, as the clinical practice is busy. Beautiful area, great community for family. For details contact: Dr. Tim Schmitt, (218) 631-1360, or James Lawson, Administrator, Tri-County Hospital, Wadena, Minnesota 56482; (218) 631-3510. (R)

**Pediatrician** wanted to join a 40-physician multispecialty group in northern suburbs of Minneapolis. The appropriate candidate will join the current Pediatric Department of four physicians in a very busy practice. Please address inquiries to: Bradford McKane, Comprehensive Medical Care, PA, 9055 Springbrook Drive, Coon Rapids, Minnesota 55433 or phone (612) 780-7032. (R)

**Family Physician** to join group of board certified family practitioners and one board certified general surgeon. Liberal vacation and education allowances. Competitive salary first year with incentive bonus and full membership after one year. Blue Earth is a community of 4,000 in southern Minnesota with a drawing area of 25,000. 43-bed hospital with adjoining clinic facilities. Complete ancillary support including anesthesiology, radiology, and pathology. Excellent opportunity for an aggressive young family physician. Please contact: Thomas E. Watts, M.D., Blue Earth Medical Center, Ltd., 520 South Galbraith, Blue Earth, MN 56013, Phone: (507) 526-7371, Personal Phone: (507) 526-3177; Marjeane Werner, Clinic Administrator, Phone: (507) 526-7371, Personal Phone: (507) 854-3682. (R)

**Wanted: Family Practitioner, Internal Medicine:** Central Minnesota. Starting salary $55,000. Write: Minnesota Medicine (813), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. (R)

**Emergency Medicine:** for emergency physician who possess excellent clinical and trauma skills within a group of seven Emergency Room physicians. Located in beautiful northwest Wisconsin area. Please send CV to: Dr. M. Jaghlit, 900 West Clairemont Avenue, Eau

Claire, Wisconsin 54701; or call (715) 839-4404. 6-4/88

**Pediatrician:** BC/BE, to join four busy pediatricians in progressive multispecialty group of 70 physicians. Excellent, active pediatrics unit, level II nursery at nearby community hospital. Referral area 150,000. Liberal financial benefits, high quality of life, and many outdoor recreational opportunities. Send CV and references to: Timothy V. Swanson, M.D., Affiliated Medical Centers, 101 Willmar Avenue SW, Willmar, Minnesota 56201 or call (612) 231-5000. 6-4/88

**Family Practice For Sale:** Ideal location in outer metropolitan Twin Cities area. Includes X-ray, modern lab, and all ancillary equipment, which is in excellent condition. Reasonably priced. Ideal situation for family physician who wishes to take over existing practice and enjoy immediate patient load and income. Practice easily expandable, if desired, in this rapidly growing area. Write: Minnesota Medicine (816), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. (R)

**Windom, MN - Two BC/BE FPs Needed** to join expanding, aggressive practice. Senior partner with fellowship in geriatrics; junior partner residency-trained. 10-year-old JCAH-accredited hospital. Beautiful 2-year-old, 6-doctor clinic adjoining hospital. Candidates must do OB. Possible academic affiliation. For the best in a progressive practice with the advantages of small-town living contact: Windom Clinic Ltd., James A. Gamache, M.D., Route 2, Box 63B, Windom, Minnesota 56101, or call collect: (507) 831-2550 or (507) 831-2400. 6-4/88

**Twenty-nine Physician Multispecialty Clinic** located in desirable east-central Wisconsin location is seeking board certified or board qualified orthopedic surgeon to round out its services. Lab, X-ray, excellent hospital. Liberal quarantee and benefits. If interested, contact: D.F. Sweet, M.D., Fond du Lac Clinic, S.C., 80 Sheboygan Street, Fond du Lac, Wisconsin 54935. (R)

**Family Physician Sought** to join a group of five board certified family physicians practicing in a city of 3,500 population in the beautiful Minnesota River Valley. New hospital with new attached clinic and satellite locations with the very latest in equipment. Very busy, growing practice. Contact: D. Carter, M.D., (612) 564-2511 (office), (612) 564-4409 (home), 295 Tenth Avenue, Granite Falls, Minnesota 56241. (R)

**Family Practice:** We are in need of two family practice physicians, preferred board certified, to cover expanding service area. Sandstone Area Hospital/Nursing Home is a 30 bed acute and 86 bed long-term care facility with the newly constructed Sandstone Clinic located next to the facility staffed by two full-time physicians. Sandstone is located in Northeast Minnesota's heartland, providing rich recreational activities, excellent salary and incentive pay, liberal call schedule. For more information, call/write: James G. Blum, Administrator, Sandstone Area Hospital, 317 Court, Sandstone, Minnesota 55072; (612) 245-2212. *(R)

**General Surgeon and Family Physician** needed for busy five-physician practice. Guaranteed first-year salary with excellent benefits program. Located only 22 miles from Duluth on the beautiful North Shore of Lake Superior. Call collect: (218) 834-2171, or write Steve Bjorum, Executive Director, Community Health Center, 4th Street at 11th Avenue, Two Harbors, Minnesota 55616. (R)

**Family Physician:** Twin City convenience care center seeking full-time or part-time family physician to provide care for minor emergencies and illness. Competitive salary. Send CV to: Richard M. Gebhart, M.D., Grove Square Convenience Care, 13800 83rd Way, Maple Grove, Minnesota 55369; or call (612) 420-5822 days or (612) 420-5279 evenings. 7-4/88

**Family Physician/Emergency Room:** Full-time salary working weekends, primarily emergency room. Flexibility available. Falls Medical Center, PA, 105 Shorewood Drive, International Falls, Minnesota 56649. Please contact: A. Johnson, M.D., or A. Marc Gorden, M.D., at (218) 283-9431 for more information. (R)

**Family Practitioner, General Internist, and General Surgeon** to join 8-physician clinic in Cloquet, Minnesota, a community of 14,000 (30,000 service area), located 20 minutes from Duluth-Superior. The clinic facility is located one block from modern, well-equipped hospital. Cloquet enjoys a stable economy (forest products). Additionally, our community is noted for its excellent school system. First-year salary guarantee, paid malpractice, health and disability insurance, vacation, and study time. Contact: John Turonie, Administrator, Raiter Clinic, Ltd., 417 Skyline Boulevard, Cloquet, Minnesota 55720; (218) 879-1271. (R)

**Family Physician** needed to replace retiring partner in thriving 3-FP full-service practice in Starbuck, Minnesota, on the state's thirteenth largest lake. Good hunting and fishing. Modern nine-year old hospital. Twenty miles to University Campus. Call or write: Robert Bosl, M.D., Starbuck Clinic PA, Starbuck, Minnesota 56381; (612) 239-2231. (R)

**Internist** needed to join well-established practice in a community of 45,000. First-year salary guarantee with excellent fringe benefits. Contact: Diagnostic Center, 304 Belle Avenue, Mankato, Minnesota 56001; (507) 388-1655. (R)

**Bemidji, Minnesota:** Immediate opportunity for a board certified/eligible orthopedic surgeon to join young 23-physician multispecialty group practice located in Northern Minnesota. Clinic adjacent to modern, well-staffed and equipped hospital. Competitive salary guarantee plus incentive first year. Excellent benefits and educational leave. An excellent opportunity for a physician to enjoy the practice of orthopedics in the center of hunting, fishing, and clean air. Please respond with CV to: C.C. Lowery, Administrator, Bemidji Clinic, Ltd., 1233 34th Street NW, Bemidji, Minnesota 56601. (R)

**Arizona-Based Physician Recruitment** firm has quality opportunities coast-to-coast. Available positions in most primary care and surgical specialties to include Ob/Gyn, Orthopedics, ER, and ENT. "Quality Physicians for Quality Clients since 1972." Call (602) 990-8080; or send CV to: Mitchell & Associates, Inc., PO Box 1804, Scottsdale, Arizona 85252. *(R)

**General Internist:** 14-member primary care group with 10 family physicians and one internist, surgeon, pediatrician and Ob/Gyn, requires a Board Certified general internist to continue to develop a primary and consultative internal medicine practice in Marshall, Minnesota, affiliated with Willmar Medical Center. USUAL CHAMBER OF COMMERCE CLAIMS *NEARLY* TRUE HERE! Contact: C. Paul Martin, M.D., Doctors' Plaza, Marshall, Minnesota 56258; (507) 532-9631 or send CV and references to John Merickel, M.D., Affiliated Medical Center, 101 Willmar Avenue, Willmar, Minnesota 56201. 4-4/88

**Sathe & Associates Executive Search Firm** is currently seeking physicians for positions locally and nationally. Explore new opportunities with a medical professional who is discreet and thorough. Be assured your CV will be handled in strictest confidence. There is, of course, no financial obligation to candidates. To initiate your search, please call or write: Liz Johnson: Sathe & Associates, Inc., 5821 Cedar Lake Road, St. Louis Park, Minnesota 55416; (612) 546-2100 (R)

**General Internist, Urologist, Ophthalmologist, Internist-Cardiologist, Family Practice** positions available with the Mankato Clinic, a 35-doctor multispecialty group practice in South-central Minnesota with a trade area population of 150,000. Salary first year, incentive thereafter, with full range of benefits and liberal time off. For more information, call Roger Greenwald, Administrator, or Dr. B.C. McGregor (507) 625-1811 or write: 501 Holly Lane, Mankato, Minnesota 56001. (R)

**Canterbury Inn Bed & Breakfast:** Rochester's unique alternative to hotel living. Victorian charm with modern comforts. Private baths, fireplace, central air conditioning, gourmet or special diet breakfast anytime, "tea-time" (wine, hors d'oeuvres, etc.) daily. Private, off-street parking, three blocks to Mayo Clinic and St. Mary's. A very special place for you, your colleagues, and your patients while in Rochester. $55/single, $65/double. 723 Second Street SE, Rochester, Minnesota 55902; (507) 289-5553. (R)

**Bemidji Clinic, Ltd.** offers excellent opportunities for well-trained physicians. We are seeking board certified or board eligible physicians in family practice, ear, nose, throat, orthopedic surgery, and obstetrics/gynecology. Bemidji Clinic is a 23-physician multispecialty group practice located in the beautiful north country of Minnesota. Generous first-year salary and benefit program. Contact: C.C. Lowery, Clinic Administrator, or H.J. Hoody, M.D., Medical Director; (218) 751-1280. (R)

**BE/BC Family Practice, Internal Medicine, OB/GYN & Psychiatrist:** Excellent opportunity to join a well-established, progressive, 15-physician multispecialty group (7 FP, 4 IM, 2 GS, 1 OB/GYN, 1 DERM) located in an economically sound community of 19,000 (drawing area of 30,000), 65 miles south of Twin Cities. Full membership after one year. One FP retiring in 1987. Competitive salary and fringe benefit package. Contact: Pat Greenwood, M.D., or Jim Wilkus, Administrator, 134 Southview, Owatonna, Minnesota 55060; (507) 451-1120. (R)

**Downtown Office Space For Rent.** Physician in Medical Arts Building, 825 Nicollet Mall, Minneapolis, wishes to sublet to another physician on a part-time basis for the purpose of sharing overhead expenses. Call (612) 370-0553. (R)

**BE/BC OB/GYN or GYN/GYN SURGERY,** to join a busy 11-man multispecialty group in southern Minnesota, a community of 12,000 (trade area of 70,000), competitive salary and fringe benefits. Contact: Don Grandgenett, 8 a.m., Fairmont Medical Clinic, 800 Clinic Circle, Fairmont, Minnesota 56031; (507) 238-4263. (R)

**FP/GP Locum Available for Work** Lic. Minnesota, Wisconsin, SD, ND, Colorado, Utah, Missouri. Contact: Dr. Olin, 508 32nd Avenue South, Apt. 1, Moorhead, Minnesota 56560; (218) 233-1159. (R)

**Pediatrician,** St. Cloud, BE/BC to join supportive primary care staff in successful and innovative staff-model HMO. New clinic facility. Full range of fringe benefits (competitive salary, liberal vacation, two weeks' education leave, retirement fund, etc.) Contact: Dr. Gary Strandemo, Central Minnesota Group Health Plan, 1245 15th Street North, St. Cloud, Minnesota 56301, (612) 253-5220. EOE. 3-4/88

**Family Physician** wanted to join four physicians, one nurse practitioner, FP group practicing in two offices in Pine River and Pequot Lakes. Competitive salary. No OB. No HMOs. Rural area with outdoor recreational opportunities. Rotate hospital visits, emergency call; adequate free time. Call or write: C.R. Pelzl, M.D., Pine and Lakes Clinics, PO Box 88, Pine River, Minnesota 56474; (218) 587-4416. (R)

**For Sale:** Coherent 930 Argon Laser, two years old, and not used during the past 8 months as we lost our ophthalmologist. Take over balance of lease (34) payments at $685.35, plus residual at 10% of original cost, or purchase from lessee. Write or call: Dalton Braniff, Administrator, Lake Region Clinic, P.C., PO Box 1100, Devils Lake, North Dakota 58301; (701) 662-2157. 3-4/88

**Family Practice:** Two BC/BE family practitioners needed for expanding practice in the St. Cloud/Alexandria, Minnesota, area. Offering $75,000 first-year salary and full corporate membership after one year. Contact: Paul Van Gorp, M.D., (612) 732-2131. 4-5/88

**Hutchinson, MN - Seeking BE/BC Family Practice Physician** to join established, successful physicians group. Modern, well-equipped clinic and hospital located in Hutchinson, Minnesota, a progressive and growing community 60 miles west of the Twin Cities. Competitive compensation package. Send CV to: Brenda Maiers, HMC, 1091 Highway 15 South, Hutchinson, Minnesota 55350. 3-4/88

**Waseca, Minnesota:** Family practice physician to join four family practitioners in April 1988. Population 8,000. One hour south of Burnsville Center; lakes; industry. Salary negotiable. Clinic-adjacent hospital. Ample free time to enjoy family life. Contact: James W. Dey, M.D., or Ruth Hawker, 501 North State Street, Waseca, Minnesota 56093; (507) 835-3110. 3-4/88

**1988 CME Cruise/Conferences on Medicolegal Issues & Risk Management:** Caribbean, Mexico, Alaska, China/Orient, Europe, New England/Canada, Trans Panama Canal, South Pacific. Approved for 24-28 CME Category 1 Credits (AMA/PRA) and AAFP prescribed credits. Distinguished lecturers. EXCELLENT GROUP RATES ON FINEST SHIPS. Registration limited. Pre-scheduled in compliance with IRS requirements. Information: International Conferences, 189 Lodge Avenue, Huntington Station, New York 11746; (516) 549-0869. *4-5/88

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**Urologist Physician** board certified-board eligible to join 23-physician multispecialty group in Winona, Minnesota. Total draw area of 40,000 population. Competitive salary offered. Interested physicians please contact: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, Minnesota 55987. 3-5/88

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**Orthopedic Surgeon** board certified-board eligible to join a 23-physician multispecialty group in Winona, Minnesota. Total patient population draw area of 40,000. Interested physicians please contact: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, Minnesota 55987. 3-5/88

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**New Ulm, Minnesota:** Family practice physician BC/BE for multispecialty clinic of 18 board-certified physicians in family practice, internal medicine, pediatrics, orthopedics, general surgery, OB/GYN, radiology, and emergency medicine. Associate physician regular visits in neurology, oncology, otolaryngology, and pathology. Other specialties in town are ophthalmology and urology. Historic city of 15,000 located 90 minutes south of Minneapolis metro area, 30 minutes from Mankato State University. Well-balanced economy between Kraft, 3M, Pantasote, AMPI, and agribusinesses. Three excellent school systems in addition to a college. Contact: Robert Stevens at the New Ulm Medical Clinic, PO Box 667, New Ulm, Minnesota; (507) 354-4101. 8-10/88

**Internal Medicine:** BC/BE internist to join internal medicine office in downtown St. Paul, Minnesota. Competitive first-year salary and benefits. Send CV to: Minnesota Medicine (819), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. 4-6/88

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### WEDNESDAY, MAY 4

- Aids Regional Conference
- Welcome Reception
- Minnesota Psychiatric Society Workshop
- Minnesota Physiatric Society Dinner/Lecture

### THURSDAY, MAY 5

- House of Delegates Session I
- Presidential Inaugural Reception & Dinner
- Reference Committee Meetings

### FRIDAY, MAY 6

- House of Delegates Session II

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**Wausau Medical Center** is seeking BE/BC individuals in the following specialties: cardiology, dermatology, family practice, infectious disease, obstetrics/gynecology, pediatrics, and rheumatology. Modern clinic facility located across the street from modern, 300-bed hospital. Full partnership in three years. Easy access to lakes, woods, and mountains. Write (including CV) to: D.K. Aughenbaugh, M.D., Medical Director, Wausau Medical Center, 2727 Plaza Drive, Wausau, Wisconsin 54401. (R)

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A JOURNAL OF CLINICAL AND HEALTH AFFAIRS

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MAY 1988

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MINNESOTA MEDICINE
AIDS

## Cover Design

**AIDS** The feelings of fear, isolation, and despair of the person with AIDS are depicted in the paper collages on this month's cover.

Although we are not yet able to cure the disease, we do have the power to reduce the fear and isolation—to lessen the despair. This special issue of *Minnesota Medicine* is an acknowledgment of that power and hope.

Artwork by Kathleen Berntson, St. Paul artist and illustrator.

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# The Omnipresence of AIDS

**Editor's Note:** To prepare this special issue of *Minnesota Medicine* on AIDS, we knew we needed the assistance of an expert. We turned to Dr. Kent Crossley, chair of the MMA's Task Force on AIDS, who ably served as guest editor of this impressive issue.

Dr. Crossley, an infectious disease specialist, is head of the Section of Infectious Diseases in the Department of Medicine at St. Paul-Ramsey Medical Center. He is a professor in the Department of Medicine at the University of Minnesota and a member of the Commissioner's Task Force on AIDS. He has been involved in AIDS since the beginning of the epidemic. We are grateful to Dr. Crossley and the many other physicians and scientists who share their expertise on these pages.

*Illustration by Kathleen Berntson*

This much about AIDS is clear: One hundred or five hundred years from now, the epidemic will be remembered. It will be remembered because of the magnitude of human suffering and death, and because of its cost to our society.

A historian examining the epidemic might do well to review a copy of this issue of *Minnesota Medicine*. It accurately reflects both the breadth and depth of our state's involvement with the disease. The article that describes the University's AIDS Clinical Trials Unit indicates that this is the only such center in the Upper Midwest. The Minnesota Department of Health risk-reduction and disease-prevention plan is a reminder of the important work in the epidemiology and prevention of AIDS conducted under MDH direction and sponsorship. As has been true more than once in the past, Minnesota physicians and scientists are playing a major role in advancing our understanding of an important communicable disease.

The Minnesota Medical Association is committed to combating AIDS. Appropriately, the association is focusing on education for health care workers. Most physicians do not need to know a great deal about AIDS. But each of us must understand the transmission of the human immunodeficiency virus, know the activities associated with infection, and learn how to evaluate and counsel the patient who may be at risk for infection with the virus. Just as importantly, as the interviews and essays in this issue make clear, many of us must improve our skills in relating to patients who are gay.

Just about a year ago, my wife and I were on a brief vacation in New York City. On our first night there, we attended a performance of the Metropolitan Opera. As we climbed the grand staircase, I noticed a young man in front of us who was very thin and who appeared tired, pale, and short of breath. He was moving slowly at the edge of the crowd. Without warning, he dropped to the stairs and sat until he regained enough strength to finish his climb.

AIDS is like that. It has become omnipresent in our society. The disease has had a major impact on our educational processes (ranging from elementary school boycotts to decisions by graduating medical students to avoid training in Los Angeles, San Francisco, or New York). It has, probably forever, modified how gay men think of themselves and how they are seen by society. It has changed our relationships with our patients and had major impact on the economics of health care and on infection control. Major ethical dilemmas have been brought into focus by the disease.

Our inability to cure AIDS makes the disease all the more frustrating—and tragic. But we are not helpless. As physicians, we must continue to do all we can to understand the disease and to treat its victims with impartiality and compassion.

*Kent Crossley, M.D., Chairman*
*Minnesota Medical Association Task Force on AIDS*

# Spreading the Word about AIDS Care and Prevention

**REECE** *Dr. Strickland, you've been an internist at the Park Nicollet Medical Center for the last five years. You're originally an Oregonian, but you came here in 1980 for your training at the Hennepin County Medical Center; you finished your internal medicine residency there before going to Park Nicollet. When did your interest in AIDS begin?*

**STRICKLAND** I became interested in AIDS when I was at a conference in 1981, where the first five cases of what we would eventually call AIDS were discussed. When I came back, I gave a talk about the new disease as part of my residency-training program. Almost by default, I became an expert. Then I saw more people with the disease. When I went into practice, more of these people were referred my way. I was in the right place at the right time.

**REECE** *So that original interest has blossomed to the point that you now have 50 AIDS patients or so in your practice. Last year, you gave 150 talks to lay and medical groups on AIDS.*

**STRICKLAND** I've spoken in Minneapolis to many physician organizations and in grandrounds. I have been out of the state, too, mostly in the Upper Midwest. I've given talks in Atlanta and Dallas. Locally, I've spoken to nursing groups, medical technologists, and other health care professionals. I've spoken before lay groups, insurance companies, and church organizations.

**REECE** *Why are you so active in discussing this subject in a state that has such a low incidence of AIDS?*

**STRICKLAND** The important thing with AIDS is to deal with it when its incidence is low. If you wait until you have an epidemic, as in New York and San Francisco, you've missed the boat. What you can do in a low-risk state, is to keep the risk low. I'm interested in keeping people from becoming infected, by making them knowledgeable about the disease, by keeping other people from reacting hysterically about a disease they don't need to be hysterical about.

**REECE** *How many cases of AIDS are there in Minnesota, and how many HIV-positive people are there?*

**STRICKLAND** We have approximately 320 reported AIDS cases in Minnesota. The state health department estimates there are about 15,000 HIV-infected people in this state. That's a mathematical estimate, subject to correction as we have more information. There are probably several hundred people who have HIV-associated complications, minor neurologic problems or minor ARC symptoms that are not strictly AIDS but are associated with HIV infection.

> **I would like to be able to care for people with AIDS in a way that makes what life they have left a high-quality, comfortable, and positive time for them.**
>
> *Scott Strickland, M.D.*

**REECE** *Can you have neurological complications without deterioration?*

**STRICKLAND** Yes. In some people the AIDS virus infects the nervous system but spares the immunologic system. The AIDS virus may affect the brain and peripheral nervous system independently of the immunologic system.

**Strickland** *to page 312*

*When we started searching for a physician to interview about AIDS, the name Scott Strickland surfaced immediately and repeatedly. Small wonder. This 33-year-old physician, a general internist at the Park Nicollet Medical Center, has 50 AIDS patients in his practice and gives 150 talks a year on the subject. For reasons of serendipity, curiosity, compassion, and concern, AIDS has become a big part of Scott Strickland's life. As will become apparent in this interview, he frets about at least four dangers of this lethal disease: 1) the danger of provoking public hysteria by overemphasizing fluke infections that could theoretically occur from casual contact; 2) the danger of missing AIDS cases because of disbelief, denial, and forgetfulness by physicians; 3) the danger of being blinded to and neglecting those small things that prevent the disease because of our obsession with technological "big fixes"; and 4) the danger of not stopping the AIDS epidemic now among heterosexuals and children because of our stereotyping of AIDS as strictly a disease of gays and IV drug users.*

# Embracing Life in the Face of AIDS

When we were planning this special issue on AIDS, someone came up with the idea of interviewing a person with AIDS. The thought grabbed me immediately. The more I thought about it, the more I realized the issue would be incomplete without such an interview.

We asked the Minnesota AIDS Project (MAP) to recommend a spokesperson. They recommended a young man named Mark, who asked that we not use his last name, to protect his privacy. I met Mark for lunch and interviewed him later in my office. Mark is a tall, gentle, kind, thin man with close-cropped hair. He shows few ravages of AIDS except for a Kaposi's sarcoma vascular lesion on his right lower eyelid. He talks slowly and softly but intently and with great feeling. He stresses how society's attitudes toward gays often drive them to alcoholism and how alcoholism afflicts disproportionately large numbers of male homosexuals. He is even more emphatic about how the disease has transformed his thinking, his attitudes, and his view of life.

**REECE** *Mark, the Minnesota AIDS Project has recommended you as a spokesperson. You will soon be 40 years old. You have had AIDS for one year and one month, and you contracted it from a male friend about six years ago. You've told me you have full-blown AIDS, and you are now receiving AZT treatment. You also are treated every several weeks or so with the chemotherapeutic agent vinblastine, and periodically you receive a pentamidine mist treatment. Your family is in the Twin Cities and is very supportive. Given that background, and understanding that you're addressing the physicians of Minnesota and other Minnesota Medicine readers, what message would you like to set forth today?*

**MARK** The message I would like to set forth is that the oppression of gay males must stop before the disease will stop within that population. As long as gay males of any age continue to be oppressed, the disease will go on. We must educate youth not only about safe sex but also about gay issues. If we teach children that being gay is a crime, is a sin, is against the natural law, those children who are gay are going to lose their self-worth. They will have no respect for themselves and, therefore, no respect for anyone else.

**REECE** *You told me earlier that AIDS is often closely allied to alcohol and drug addiction. Indeed, you say many gays contract their disease while under the influence of these agents.*

**MARK** This is one of the biggest issues, as far as I'm concerned. Gay men today have changed their high-risk lifestyles for the most part, except for a group that still has a problem with alcohol or drugs. A lot of gay men, including me, have used alcohol and drugs to escape the realities and the harshness of life. When a person is under the influence of alcohol, when a person is an alcoholic, they lose their self-worth. They don't respect themselves. They don't exactly know what happened, who they were with, and what they did. If we are to address the alcoholism problems of gay males, we have to first deal with the guilt and oppression that caused them to lose their self-respect as human beings. And to regain this, we have to change the way we look at gay men as a group.

> **It's not easy, but you have to break that line and make the person want to live somehow. I want to live. I have chosen life over death.**
>
> *Mark*

**REECE** *How should society look at gay men?*

**MARK** As far as I am concerned, being gay should just be an alternate lifestyle. It should be discussed openly in high schools, without church involvement. People should state the facts to kids. Many children know that they are gay at a very young age, and even then, they are told such horrendous lies. Even before they understand sexuality, they have lost all their self-worth because they know they belong to this group, and they are told this group should not even exist on the face of the earth.

**REECE** *I know you think that for 10 percent of the male population gayness is biologically foreordained and that for perhaps another 10*

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*percent, male sexuality is ambivalent and may be environmentally induced.*

MARK Yes, that's how I feel. I know that I was born gay. I was brought up in a normal middle-class home, and I knew I was gay from the time I was about eight years old. I never felt very comfortable with that fact because of my Catholic upbringing. I felt that I had no self-worth and no chance for a happy life.

REECE *Has the medical profession in Minnesota been open and helpful to you or to other gays?*

MARK I believe I have received the highest quality health care. I go to Mt. Sinai Hospital, where I see Dr. Elliot Francke and Dr. Hanan Rosenstein. The whole staff at Mt. Sinai has been superb. I cannot question anything, although this is not as true across the board in other hospitals in this town. I'm not really pleased with certain health care other human beings have received.

REECE *Where do you receive your AZT and your vinblastine chemotherapy?*

MARK The AZT is prescribed by my doctor. The vinblastine therapy I get at the Oncology Consultants next to Abbott Northwestern Hospital. I receive mist treatment at Clinic 42 at Mt. Sinai Hospital. Clinic 42 opened about six months ago to take care of the needs of the increasing number of AIDS patients.

REECE *Do you think AZT has helped you?*

MARK The main reason I am alive right now is because of AZT. I know of other friends who, before they took AZT, had expected to live two weeks to two months. It's nine months later, and they're still doing very well, I believe because of AZT.

REECE *I notice you have a Kaposi's sarcoma on your face. Have you ever had* Pneumocystis *pneumonia?*

MARK I have not. The only AIDS-related illness I have at this time is the Kaposi's.

REECE *In our earlier conversation, you pointed out to me that although we have only 320 reported AIDS cases in Minnesota, this number is deceptive. The reason it's deceptive, you said, is that many gay Minnesotans who have gone elsewhere in the country return here. Their families are here, the health care is better, and the attitude toward AIDS is more enlightened.*

MARK The number of people with AIDS and with ARC in this state seems low if one just reads the numbers. But many gay men leave their rural Minnesota towns at a young age and move to the West or East Coast. They come back home to die with their families.

REECE *How has having the disease affected a) your love life, b) your insurance coverage, c) your work, and d) your family relationships?*

MARK As far as my love life is concerned, I am not sexually active anymore, but I have close relationships with human beings now without having sexual relationships with them. I've learned to redefine what relationships are all about, and I have learned this new attitude through support groups.

As far as my insurance goes, I was well insured by my employer when I was diagnosed with full-blown AIDS. I hired a lawyer, who took care of all my insurance needs with my employer. My insurance was very good, and my employer backed me up 100 percent. I had long-term disability through my insurance, which they have taken care of. I really have had no problems. But I am in the minority. Most people I know who are diagnosed with AIDS have a lot of problems with insurance. It becomes a nightmare for them.

REECE *What about your work? You were a restaurant manager in one of the leading Chicago hotels and in leading Twin Cities restaurants. What happened when you were diagnosed?*

MARK Basically, my employer did not want me near the building. They pushed me out the door, but they did pay my insurance. I understand, because I did deal with food. There was a lot of hysteria about AIDS and food. I didn't think they dealt with me fairly or compassionately. But it's turned out well for me because it's given me time to heal myself in a spiritual way.

REECE *And what about your family? Is your family supportive?*

MARK My family has become closer through this illness. Our relationship improved after I joined a 12-step program to deal with my alcoholism. At first, I tried to blame my loss of family and friends on the AIDS virus itself. It wasn't the AIDS virus; it was my being an alcoholic. And once I started to

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treat my alcoholism problems, my friends and my folks returned and became close to me.

**REECE** *Since alcoholism and AIDS are so closely linked, are there active AIDS AA groups in the Twin Cities?*

**MARK** Yes, the Minnesota AIDS Project has started two AA groups for those with AIDS and ARC. They started in the last two months. They meet on Wednesdays and Fridays. These are places where you can discuss AA issues that pertain to a diagnosis of AIDS, ARC, or to being HIV-positive. When I was diagnosed, I started to drink vodka heavily and take AZT at the same time. I didn't know whether I wanted to live or die. With the alcohol I was trying to do myself in, and with the AZT I was trying to live. I couldn't make up my mind which way I wanted to go. One evening, a message from my higher power told me, "If you want to live you have to cut this out." Then I started going to AA.

**REECE** *So, AIDS has changed your outlook. You decided it was time to live rather than time to die.*

**MARK** AIDS for me has been a positive experience. There are drawbacks to it, but I've learned more in the last year about myself than I had in the last 18. I spent the last 18 years very numb. I tried to numb myself out, to build walls around myself with work, with alcohol, with bad relationships.

**REECE** *How has AIDS and not working affected the way you conduct your daily life?*

**MARK** I don't have the strength I did when I worked. I sleep more now. I have to take care of myself. I make sure I have one or two things I must go through every day, whether it's a support group or volunteer work, or something on that order. I make sure I'm active every day. And being active and doing positive things for myself is important to my spiritual health.

**REECE** *Your spiritual health has improved, and you've developed a more positive and self-fulfilling philosophy. You maintain this by going to your support groups and by being active with the Minnesota AIDS Project?*

**MARK** I've been happier this year than I have been in about 18 years. Most people don't understand why. They think I'm crazy.

**REECE** *Why?*

**MARK** I'm more at peace with myself. I understand I am a good, worthwhile human being. I shouldn't have listened to all the abuse I've heaped upon myself for all these years. I feel God made me gay in his image and likeness, so I am good myself. How I respond to things is most important. I realize that I don't have a right to abuse or use anyone nor does anyone have a right to abuse or use me.

**REECE** *Do you have any thoughts to share with us about how physicians might treat gays better and those with AIDS more compassionately.*

**MARK** If a physician is homophobic, he or she should seek help of some kind, or shouldn't deal with anyone who is gay, because it's not going to help anyone. I'm most impressed with the health care workers at Mt. Sinai and Oncology Consultants—the tremendous job they're doing, the way they're trained in this state, and their compassion.

**REECE** *So you don't feel shunned?*

**MARK** I have not felt that way in so far as my health care is concerned.

**REECE** *If I may summarize some of your thoughts: One, gay AIDS patients should expunge the feeling of guilt and shame, and if chemically addicted, should take constructive action through AA or some other program. Two, health care professionals should purge themselves of their homophobic attitudes and treat AIDS as a clinical disease without thoughts that it's highly infectious, especially on casual contact. And, three, society should treat AIDS as a reality, as something to approach objectively, without a heavy dread factor.*

*How do you think we can break the chain of negative behavior that worsens this epidemic?*

**MARK** To change the behavior, more funding has to go into support groups, gay men's groups, so that we can get the word out to gay men that they are good, that they are valuable to life and to this world . . . to let them know that there is a beauty to life out there, that they can stop their negative behaviors in life. A lot of people in the straight world don't like the idea of funding any gay men's groups, but if we don't change the negative behavior in the gay and straight worlds, especially among those who feel they are oppressed and at high risk, the disease won't stop.

**REECE** *In the Twin Cities, the proportion of intravenous drug users who have AIDS is low. In a sense, the intravenous drug users are the "loose cannons on the deck" because they are often so strung out that they don't care. Any thoughts about how we control that side of the epidemic?*

**MARK** That's a tough question. People who contracted AIDS through IV drug use unfortunately don't fit into the support groups. Most of the support groups are comprised of 90 percent gay men. Drug users don't feel comfortable in these groups. There has to be counseling at a very early age. We have to stress that those people who use IV drugs are committing suicide. Some people don't care. I know myself, when I was using alcohol, I didn't care whether I lived or died. It's not easy, but you have to break that line and make the person want to live somehow. You have to get that person back to the point where they want to live.

I want to live. I have chosen life over death.

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# Human Frailty Confronts High Priests, Wizards, and Doctors

*Keith A. Gann*

Some of my earliest memories are of doctors' offices. Frequently my mother would pack me and a brother or sister or two off to see Dr. Marsh. There was an earnest quality to these trips, and, at some level, I came to think of them as a type of pilgrimage to a shrine. I would come, my human frailness written all over a sick body, see the priest, get an injection (oftentimes in a part of the body I couldn't even see) or an illegible slip of paper that seemed to contain words from another language, go home, take the potion prescribed, and my health was restored. Sometimes, the power of the shrine was not great enough, and I would need to go to the high priests, specialists, who would work on my body in strange and mysterious ways, oftentimes placing body fluids in sacred specimen bottles which I would never see again and whose ultimate destiny I could only imagine. In my town, as a matter of fact, there was a Catholic hospital and a Protestant hospital, and no crossover! (Pardon the pun.)

I was four years old, I believe, when I informed my mother that I wanted to go alone into the examining room. Perhaps I had visions of myself like the boy Jesus staying behind at the temple to talk with the priest on his own.

These are the sort of mythical proportions that Western medicine has achieved. Enter AIDS. Suddenly, the assumptions with which I grew up no longer work. There isn't a pill or an injection that will make everything better, and doctor and patient alike are angry and frustrated.

Excuse me while I mix metaphors, but, like Dorothy and friends in the Emerald City, we can no longer ignore the man behind the curtain. We have to accept the limitations of medicine and its practitioners in the face of AIDS, while continuing to expand those limits. We must also look to our own individual experience, much like the Scarecrow, the Tin Woodsman, and the Lion, who discovered brains, heart, and courage in their individual journeys. The Wizard affirmed those qualities. The Wizard himself only became helpful when reduced, or enlarged, to human size.

**There isn't a pill or an injection that will make everything better.**

So, I am a person with AIDS. These are some of my experiences with doctors' offices, clinics, and hospitals. Also, here are some ideas I would like medical practitioners to consider as they treat people with AIDS.

I first became ill four years ago. I belonged to an HMO at the time and, as nearly as I could tell, I didn't have an option for a gay doctor. Already, I had had enough negative experience that a straight male doctor would have to earn my trust. Fortunately, my primary physician at the HMO was a woman whom I liked and who had a bedside habit of listening. Still, totally inappropriate situations occurred during my first hospitalization. My white blood count and hemoglobin were dangerously low. I was experiencing night sweats, chills, fevers, fatigue, and nausea, and had a few enlarged lymph nodes. I entered the hospital with my lover present. I identified myself as a gay man. After my lover left, I was taken in a wheelchair, my face masked and my body wrapped in a robe and blanket for an X-ray. It was explained that this was to protect me from infection because my white blood count was so low. Later, in the middle of the night, I was awakened by a being (gender and species not being apparent) wearing a billowing yellow paper gown, blue puffy booties, white mask from the eyes down, blue shower bonnet, and transparent white rubber gloves. Being astute even in my half-conscious state, I quickly realized I was in isolation. Nobody told me!

During the night my sweats and chills were severe, and I needed to change bedclothes three times. Unfortunately, the third time happened to be at about 7:00 a.m., during "report." I was soaked and cold. I rang for the nurse. She stuck her head in the door—sans mask and bonnet—and asked if I could wait until after report. Being weak, I said, "I guess." She came back a few minutes later and asked, "Can you change yourself?" I replied, "yes," and she opened the door a bit wider and literally threw the gown across to me. Later that day I was moved to the *hospice unit*!

The day nurse was much more sensitive and realized that I was frightened. She held my hand while the doctor took a bone marrow sample from my hip.

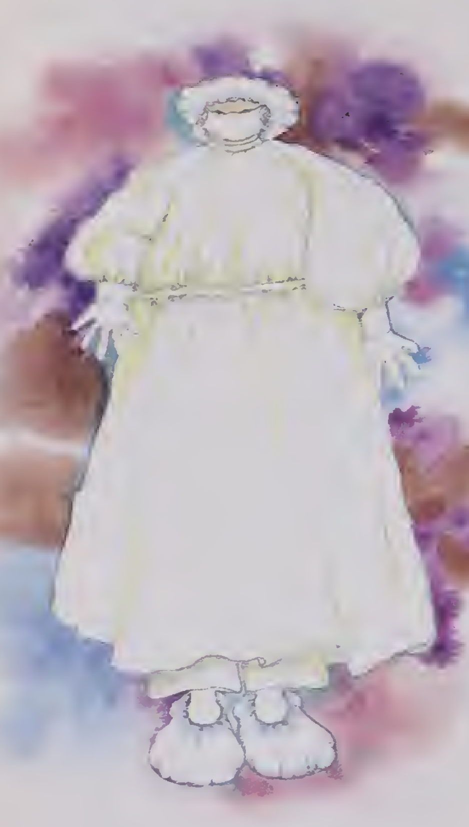

*Illustration by Kathleen Berntson*

I responded to antibiotics and was discharged after a week. My doctor assured me that it was very unlikely that I had AIDS, but she could not diagnose infection.

During the next two years, I had many minor infections, rashes, fatigue, swollen lymph nodes, and occasional night sweats. Numerous doctors came and went through the HMO, and there was little opportunity to develop a good relationship with a doctor. I continued to be reassured that it was unlikely I had AIDS. I asked specifically about vitamins, nutrients, supplements, etc., and was told they were of no benefit in preventing AIDS. Basically, I was advised to limit my number of sexual partners, eat, rest, and use a condom. Finally, in November 1985, I was tested anonymously for HIV antibodies. The test was positive. I waited three months, until I was sick with some other infection, to tell the doctor of my HIV status. Immediately, a liver biopsy, spinal tap, bone marrow, liver and spleen scan, and numerous blood tests were ordered. I was informed I had ARC.

Shortly afterward, I changed insurance policies and called the Minnesota AIDS Project (MAP) to get the names of some doctors. I called a gay male doctor. He talked with me on the telephone, listened to my situation, and agreed to be my physician. During my first office visit he asked how I was doing emotionally and recommended some support groups and services. This was the first validation of my emotional trauma by an MD other than my psychiatrist.

**I was awakened in the middle of the night by a being wearing a billowing yellow paper gown . . .**

I continue to see him. He is basically a traditional Western doctor, but he is accepting and supportive of my using alternatives, such as chiropractic, Reiki, nutritional supplements, herbs, massage, crystals, and visualization/meditation. His basic attitude seems to be that I know what makes me feel good, and feeling good is a goal in itself, regardless of the "outcome" of my diagnosis.

There have still been times when I've needed to ask him directly for clarification. When I was diagnosed with *Pneumocystis* pneumonia in January 1987, he told me the average life expectancy was about 18 to 22 months, and that I could probably expect six months of relatively good health. Well, six months later I had remained healthy and was doing great. I had to ask, "So, do I fall apart now?" He quickly backpedaled and said things are changing so quickly, particularly with AZT, that now it's probably reasonable "to expect 9 or 12 or 15 months of good health." I've informed him that I expect a lot longer than that! (Incidentally, I have not had a significant illness since that initial bout with *Pneumocystis*.)

During my hospitalization for *Pneumocystis* in January of 1987, I discovered that nursing staff had become much more educated and sensitive about both the physical and emotional aspects of AIDS. Incidents that had occurred during my previous hospitalization were not repeated. I received prompt, courteous, and supportive nursing services.

Nutrition was another matter. I discovered that vegetarianism was thought to be as untreatable as AIDS. A very concerned dietitian visited me each day to plan my menu for the following day. But, a plan is only as good as its execution, and the kitchen was seemingly unable to provide adequate, interesting, and enjoyable vegetarian food.

My doctor called in an epidemiologist as a consultant while I was in the hospital. He entered with an attitude of authority and immediately began talking. It was clear he had already decided that I was going to take AZT. When I asked him to back up and discuss options, he was incredulous and essentially informed me there weren't any. His exact words were, "If I were in your shoes . . . what do you have to lose?" I replied, "My health, possibly." Fortunately, I had a friend present to do a reality check, and he assured me I had not misinterpreted this interaction. I informed my doctor I would not see the consultant again. Also, the consultant had changed my medication from IV to PO. I had to ask my doctor for clarification of who was making decisions about my care.

The University clinics were another experience. If hospitals are temples, the University Hospital is the Vatican! Doctors there were willing to discuss AZT with me, but in a rather patronizing manner and with thinly veiled impatience. (By now, I was routinely taking a friend with me to medical appointments with physicians other than my own, just to have an independent observer to verify my perceptions. He confirmed my assessment.)

After a couple months' consideration, I did agree to be a part of the AZT study. As I was leaving the clinic after finally making that decision, a nutritionist approached me and asked to discuss nutrition with me. I thought this was holistic and would be helpful. He proceeded to tell me about the tubes they could feed me with! I suggested it might be more appropriate to start with some less obtrusive alternatives. I haven't talked with him since.

I had to have a complete physical before beginning the study. The clinic physician who examined me was rough and seemed angry. I couldn't tell if he was overworked, had a poor bedside manner, was homophobic, or just didn't like me. I left feeling assaulted.

Throughout all these experiences I've learned a great deal about assertiveness. I believe people with AIDS have to be more assertive than they have ever been in their lives. Doctors should not see this as disrespectful, but as the patient's legitimate concern. We cannot enter the temples with the same innocence and awe, because we've seen the man behind the curtain . . . and we've found our brains, our hearts, and our courage.

Meanwhile, I continue with my healing program, which combines both Western and alternative traditions. I am currently healthy and have not been sick since January 1987. Here is a list of things I think are important for doctors to know and do when treating a person with AIDS:

- Listen to the patient.
- Discuss all options with the patient. Do not approach the patient assuming a preplanned treatment agenda.
- Do not discount whatever alternative approaches the patient finds helpful or comforting, unless they are harmful.
- Realize and be sensitive to the fact that the patient's experience with AIDS is taking place in her or his own body and that she or he will have an emotional response.
- Discuss support systems.
- Know your own homophobia and own it; if it interferes, refer patients to practitioners who are less affected and state clearly your reasons for doing so.
- Recommend the least restrictive or obtrusive option first.
- Be sensitive to the needs of friends, lovers, and family.
- If an HIV-positive or worried well person visits your office, recommend healthy lifestyle options, including nutritional supplements, exercise, rest, safe sex, and abstinence from alcohol and drugs.
- Do not use words like "victim" or "terminal." "Person with AIDS" and "life threatening" are preferable.
- Reduce the stress in your own life.
- Treat nurses respectfully and professionally. They provide most of my medical care and do a better job when treated as a professional member of the treatment team.
- Know that I know you are human and appreciate you for it.

---

*Keith Gann is editor of* PWAlive, *a newsletter by and about people with AIDS. He facilitates support groups for people with AIDS and serves on the East-Metro AIDS Task Force.*

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***Contraindications:*** *There are no known contraindications to the use of 'Tagamet'.*

***Precautions:*** *While a weak antiandrogenic effect has been demonstrated in animals, 'Tagamet' has been shown to have no effect on spermatogenesis, sperm count, motility, morphology or in vitro fertilizing capacity in humans.*

*In a 24-month toxicity study in rats at dose levels approximately 9 to 56 times the recommended human dose, benign Leydig cell tumors were seen. These were common in both the treated and control groups, and the incidence became significantly higher only in the aged rats receiving 'Tagamet'.*

*Rare instances of cardiac arrhythmias and hypotension have been reported following the rapid administration of 'Tagamet' HCl (brand of cimetidine hydrochloride) Injection by intravenous bolus.*

*Symptomatic response to 'Tagamet' therapy does not preclude the presence of a gastric malignancy. There have been rare reports of transient healing of gastric ulcers despite subsequently documented malignancy.*

*Reversible confusional states have been reported on occasion, predominantly in severely ill patients.*

*'Tagamet' has been reported to reduce the hepatic metabolism of warfarin-type anticoagulants, phenytoin, propranolol, chlordiazepoxide, diazepam, lidocaine, theophylline and metronidazole. Clinically significant effects have been reported with the warfarin anticoagulants; therefore, close monitoring of prothrombin time is recommended, and adjustment of the anticoagulant dose may be necessary when 'Tagamet' is administered concomitantly. Interaction with phenytoin, lidocaine and theophylline has also been reported to produce adverse clinical effects.*

*However, a crossover study in healthy subjects receiving either 'Tagamet' 300 mg. q.i.d. or 800 mg. h.s. concomitantly with a 300 mg. b.i.d. dosage of theophylline (Theo-Dur®, Key Pharmaceuticals, Inc.), demonstrated less alteration in steady-state theophylline peak serum levels with the 800 mg. h.s. regimen, particularly in subjects aged 54 years and older. Data beyond ten days are not available. (Note: All patients receiving theophylline should be monitored appropriately, regardless of concomitant drug therapy.)*

*Lack of experience to date precludes recommending 'Tagamet' for use in pregnant patients, women of childbearing potential, nursing mothers or children under 16 unless anticipated benefits outweigh potential risks; generally, nursing should not be undertaken in patients taking the drug since cimetidine is secreted in human milk.*

***Adverse Reactions:*** *Diarrhea, dizziness, somnolence, headache, rash. Reversible arthralgia, myalgia and exacerbation of joint symptoms in patients with preexisting arthritis have been reported. Reversible confusional states (e.g., mental confusion, agitation, psychosis, depression, anxiety, hallucinations, disorientation), predominantly in severely ill patients, have been reported. Gynecomastia and reversible impotence in patients with pathological hypersecretory disorders receiving 'Tagamet', particularly in high doses, for at least 12 months, have been reported. Reversible alopecia has been reported very rarely. Decreased white blood cell counts in 'Tagamet'-treated patients (approximately 1 per 100,000 patients), including agranulocytosis (approximately 3 per million patients), have been reported, including a few reports of recurrence on rechallenge. Most of these reports were in patients who had serious concomitant illnesses and received drugs and/or treatment known to produce neutropenia. Thrombocytopenia (approximately 3 per million patients) and a few cases of aplastic anemia have also been reported. Increased serum transaminase and creatinine, as well as rare cases of fever, interstitial nephritis, urinary retention, pancreatitis and allergic reactions, including hypersensitivity vasculitis, have been reported. Reversible adverse hepatic effects, cholestatic or mixed cholestatic-hepatocellular in nature, have been reported rarely. Because of the predominance of cholestatic features, severe parenchymal injury is considered highly unlikely. A single case of biopsy-proven periportal hepatic fibrosis in a patient receiving 'Tagamet' has been reported.*

***How Supplied: Tablets:*** *200 mg. tablets in bottles of 100; 300 mg. tablets in bottles of 100 and Single Unit Packages of 100 (intended for institutional use only); 400 mg. tablets in bottles of 60 and Single Unit Packages of 100 (intended for institutional use only), and 800 mg. Tiltab® tablets in bottles of 30 and Single Unit Packages of 100 (intended for institutional use only).*

***Liquid:*** *300 mg./5 ml., in 8 fl. oz. (237 ml.) amber glass bottles and in single-dose units (300 mg./5 ml.), in packages of 10 (intended for institutional use only).*

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***Vials:*** *300 mg./2 ml. in single-dose vials, in packages of 10 and 30, and in 8 ml. multiple-dose vials, in packages of 10 and 25.*

***Prefilled Syringes:*** *300 mg./2 ml. in single-dose prefilled disposable syringes.*

***Plastic Containers:*** *300 mg. in 50 ml. of 0.9% Sodium Chloride in single-dose plastic containers, in packages of 4 units. No preservative has been added.*

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*Exposure of the premixed product to excessive heat should be avoided. It is recommended the product be stored at controlled room temperature. Brief exposure up to 40°C does not adversely affect the premixed product.*

*'Tagamet' HCl (brand of cimetidine hydrochloride) Injection premixed in single-dose plastic containers is manufactured for SK&F Lab Co. by Travenol Laboratories, Inc., Deerfield, IL 60015.*

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- 74% of patients experienced improved sleep after the first *h.s.* dose[1]
- First-week reduction in somatic symptoms[1]

Caution patients about the combined effects of Limbitrol with alcohol or other CNS depressants and about activities requiring complete mental alertness, such as operating machinery or driving a car. In general, limit dosage to the lowest effective amount in elderly patients.

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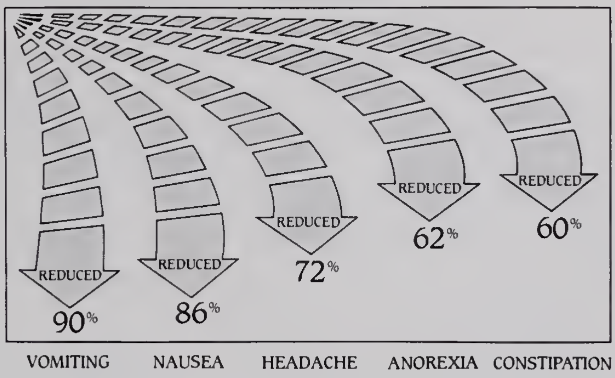
Percentage of Reduction in Individual Somatic Symptoms During First Week of Limbitrol Therapy*



*Patients often presented with more than one somatic symptom.

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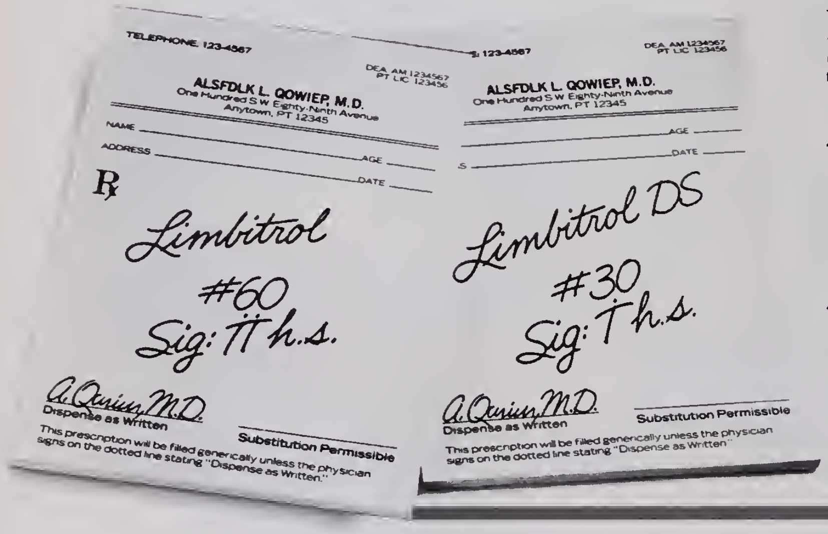
Please see summary of product information inside back cover.

## In moderate depression and anxiety

- 74% of patients experienced improved sleep after the first *h.s.* dose[1]
- First-week improvement in somatic symptoms[1]
- 50% greater improvement with Limbitrol in the first week than with amitriptyline alone[2]



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**References:** 1. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Feighner VP, *et al: Psychopharmacology 61:*217-225, Mar 22, 1979.

**Limbitrol®** ⒸⅣ
**Tranquilizer—Antidepressant**
**Before prescribing, please consult complete product information, a summary of which follows:**

**Contraindications:** Known hypersensitivity to benzodiazepines or tricyclic antidepressants; concomitant use with MAOIs or within 14 days of monoamine oxidase inhibitors (then initiate cautiously, gradually increasing dosage until optimal response is achieved); during acute recovery phase following myocardial infarction.

**Warnings:** Use with caution in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur when used with anticholinergics. Closely supervise cardiovascular patients. Arrhythmias, sinus tachycardia, prolongation of conduction time, myocardial infarction and stroke reported with tricyclic antidepressants, especially in high doses. Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (*e.g.,* operating machinery, driving).

*Usage in Pregnancy:* **Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations. Consider possibility of pregnancy when instituting therapy.**

Withdrawal symptoms of the barbiturate type have occurred after discontinuation of benzodiazepines (see Drug Abuse and Dependence).

**Precautions:** Use cautiously in patients with a history of seizures, in hyperthyroid patients, those on thyroid medication, patients with impaired renal or hepatic function. Because of suicidal ideation in depressed patients, do not permit easy access to large quantities of drug. Periodic liver function tests and blood counts recommended during prolonged treatment. Amitriptyline may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady-state concentrations of the tricyclic drugs. Use of Limbitrol with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Should not be taken during the nursing period or by children under 12. In elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects. Inform patients to consult physician before increasing dose or abruptly discontinuing this drug.

**Adverse Reactions:** Most frequent: drowsiness, dry mouth, constipation, blurred vision, dizziness, bloating. Less frequent: vivid dreams, impotence, tremor, confusion, nasal congestion. Rare: granulocytopenia, jaundice, hepatic dysfunction. Others: many symptoms associated with depression including anorexia, fatigue, weakness, restlessness, lethargy.
Adverse reactions not reported with Limbitrol but reported with one or both components or closely related drugs: *Cardiovascular:* Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke. *Psychiatric:* Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania, increased or decreased libido. *Neurologic:* Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns. *Anticholinergic:* Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract. *Allergic:* Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus. *Hematologic:* Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia. *Gastrointestinal:* Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue. *Endocrine:* Testicular swelling, gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion. *Other:* Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

**Drug Abuse and Dependence:** Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlordiazepoxide; more severe seen after excessive doses over extended periods; milder after taking continuously at therapeutic levels for several months. Withdrawal symptoms also reported with abrupt amitriptyline discontinuation. Therefore, after extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and dependence.

**Overdosage:** Immediately hospitalize patient. Treat symptomatically and supportively. I.V. administration of 1 to 3 mg physostigmine salicylate may reverse symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

**How Supplied:** *Double strength (DS) Tablets,* white, film-coated, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt), and *Tablets,* blue, film-coated, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 50.

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# A Child of the Universe

It was the fall of 1971. My senior year of high school was commencing. I sat by the kitchen table of our farmhouse and read a copy of *Life* magazine. A warm fall breeze was blowing through the window. A feature article in this issue was about the rising political influence of gays. "Gay" was a new word then, much less scientific than the word "homosexual." The article said that two percent of the population was gay. Damn it all. Why was I so unlucky that I had to fit into this group?

For the next few years I tried to change my sexual orientation. I tried dating. All I discovered was, try as I might, I still preferred to look at men rather than women anytime a choice presented itself.

My parents raised us in a conservative, mainline Christian denomination. They sent all seven children to a parochial school. I even selected a private college in a school of the same religious affiliation.

I did a good deal of reading on the topic of homosexuality. Everything I learned seemed to say that sexual orientation is not a choice. It's a given. It cannot be changed. Once this was clear, I accepted myself as a gay person; my self-concept improved.

In the fall of 1986 my health began to fail. The HTLV-III antibody test, as it was called then, was given to me. I was positive. By March of 1987 my health was very poor. My weight, which had once held around 140 pounds, had dropped to 115. It was becoming difficult to find clothes that would hide my emaciated body. Still, I didn't want my family and the people I worked with to notice how sick I was. Soon a dry cough and high fever presented. I was admitted to the county hospital. A bronchoscopy told the story: I had *Pneumocystis carinii* pneumonia. Ironically, this was good news. If I survived this episode, and I knew I would, I could get on a University of Minnesota AZT drug study. At that time, the criteria for getting AZT were far more stringent than today. If the AZT worked for me, my emaciation process might also be thwarted.

**Having AIDS leaves you in a lonely world.**

Having AIDS leaves you in a lonely world. You cannot just announce that you have AIDS. People want to know if it was sex or drugs. Which sin were you guilty of to get this much-deserved illness? Homophobic people—most people—accept that AIDS is God's way of cursing an immoral lifestyle. This line of reasoning can only make one wonder if God sent polio in the 1950s because He or She hated children. Similarly, does God send heart trouble to Type-A personalities because He or She hates hard-working men?

Still, a few friends must be set apart as nonjudgmental and respectful of my privacy. Basically, though, the person with AIDS lives in a cynical world. Expose any part of yourself to the wrong person, and all of your human rights are threatened.

Once diagnosed with *Pneumocystis* pneumonia, I was now indeed a person with AIDS. ARC no longer described my medical condition. I had to tell my parents, who now had two new pieces of information about their son: He has AIDS, and he is gay. The news hit them hard. To help them cope, they visited our small-town minister.

A few days later, I was still in the hospital recovering from the pneumonia when Rev. Schmitz visited me. I have never seen a man's face look so angry. "So you've got AIDS," the conversation began. "How do you suppose you got this disease?" I wanted to say that it must have been through a contaminated toilet seat, but one look at Rev. Schmitz's face told me that this was no time for levity. Obviously, my parents told him I was gay. I explained that I am a gay person, and I probably contracted the disease through sexual activity. His face grew angrier. "Let's have a prayer to ask God to forgive you for your homosexuality." "No," I corrected him, "I need no more forgiveness for being gay than someone else does for being straight."

My assertiveness shocked him. By now he was calm enough to tell me that he didn't know much about homosexuality. In fact, he confided to me that I was the first homosexual he had ever met. (The man is 55 years old.) Still, he knew that whenever he preaches there may be child abusers, spousal abusers, and mass murderers in his audience, so dealing with the likes

---

*Names and situations have been changed to protect confidentiality.*

of me is just part of a day's work.

For three and a half years before I learned that I was serum positive, I had been involved with a bisexual man, a well-known Twin Cities attorney. He is married and has two teen-age children. I have encouraged him to go to a confidential testing site so he can know his own HIV status. He feels, however, that if he found out he is positive, he would have to discuss this with his wife, who does not know about his bisexuality. This might then interfere with his marriage and his stature in the Twin Cities legal community. Rather than see his world crumble around him, my friend has chosen not to be tested—a decision that adds anxiety to both of our lives.

Employment also is stress-provoking for the person with AIDS. Although there are laws that prohibit an employer from firing a person with AIDS, interpretation of this law seems a bit unclear. I, for example, work on the psychiatric unit of a metro-area hospital. From time to time, patients become combative and require physical restraining until appropriate intervention can be given. It is not uncommon for an employee to be scratched or bitten by a patient. My doctor tells me that the risk of my infecting a patient in this way is very slight, yet hospitals are liability conscious. If I were injured during a takedown, I would feel obligated to report that I am HIV positive. What would happen to my position at that time? Would I be relegated to some job without patient contact?

Never having felt like my life was much of a success story, three years ago I had to make a decision. I had saved some money and had to decide whether I should use this money to go back to school and perhaps improve my station in life, or postpone that a bit longer and use the money to buy a home. I needed a tax break and chose to buy a home. Now might have been the time for me to continue my education, but I must save any cash I can for that dreadful time when I'm totally disabled. Such a time may be imminent unless there is a medical breakthrough soon.

How much will Social Security pay? Will my private disability insurance come through? Will I be able to stay in my home? What about the more philosophic questions of life? I certainly never achieved any level of greatness. Does my existence matter? The author of "The Desiderata" centuries ago gave the answer I like best.

"If you compare yourself with others, you may become vain and bitter; for always there will be greater and lesser persons than yourself. Enjoy your achievements as well as your plans . . . You are a child of the universe, no less than the trees and the stars, you have a right to be here . . . Strive to be happy."

---

**Note:** This essay was written by one of my AIDS patients at my request. He has not had any writing experience, and he was surprised by my solicitation. He has had AIDS for nearly two years with several life-threatening infections and significant debilitation. He is still attempting to work full-time and struggles valiantly with his disease and the seeming inevitability of his death. Caring for PWAs like the author of this essay is challenging, inspirational, and rewarding. I was touched by the sentiments expressed in this essay and hope it communicates to the health care community the feelings many AIDS patients experience.

*Keith Henry, M.D.*
*Section of Infectious Diseases*
*St. Paul-Ramsey Medical Center*

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# Comprehensive Case Managers

## Pulling it All Together

*Linda Brandt, R.N., B.S.N., P.H.N.*

As a nurse with 12 years of clinical and public health experience, I am convinced that AIDS has not brought new problems into the medical care arena. Rather, it has exaggerated and highlighted problems that already exist. The most vexing and difficult to deal with, for clients and providers alike, is the fragmentation of services, which seems to become more evident as a client's needs increase.

In our highly specialized health and social service delivery systems, the client is passed from office to office and system to system. And woe be unto the client who is unfamiliar with the paperwork, processes, and access procedures those systems demand.

To help reduce this shuffling of paper and people, the Minnesota AIDS Project (MAP), with a grant from the Minnesota Department of Human Services, is investigating coordination of care for people with AIDS.

An assessment of clients on medical assistance already has revealed a number of gaps in care services provided. Notably, it also has indicated a direct relationship between the fragmentation of services and the intensity of clients' needs. Not surprisingly, the more services a person with AIDS needs, the harder they are to coordinate.

All this suggests that a comprehensive system of medical case management is crucial to effectively match services with people's needs. MAP has begun a demonstration project whereby a "comprehensive case manager" is assigned to those patients who have trouble getting the services and care they need.

Typically, people with AIDS have several "case managers," each of whom deals with some aspect of the patient's needs. The first of these is the physician, who is involved in the patient's care from the time of diagnosis on. Because physicians are typically clinic and hospital based, they work with teams that include social workers, the inpatient nursing team, and the hospital's pastoral care team.

When people with AIDS are not in the hospital, a clinic-based outpatient care team may be providing care. In these cases, a public health or home-care nurse may assume the role of a home-care case manager.

Another cluster of "case managers" may be involved in providing emotional and hands-on task support, for instance, MAP's volunteer transportation aides or home helpers. Still other agencies and "case managers" may be involved as the person with AIDS enters county, state, and federal financial assistance programs.

As his or her disease progresses, the person with AIDS encounters several barriers to finding continuity of care. Because of the many losses that accompany the diagnosis and the disease—health, job, housing, income, and the accustomed standard of living, plus the all-important sense of personal control—many people with AIDS sink into a profound depression that affects their ability to seek out the services they need.

Compounding the problem, most people with AIDS are young; many are unfamiliar with both the health care and financial aid systems. Most face high levels of emotional stress—perhaps brought on by the estrangement of family or significant others—making it still harder to function in these unfamiliar systems and settings.

To better meet such diverse needs, MAP now relies on the comprehensive case manager, who acts as a patient advocate to speed the wheels of bureaucracy. Following an initial assessment, the comprehensive case manager establishes a care plan for the client. He or she identifies gaps in services provided in order to link members of the medical and nonmedical support teams (emotional and spiritual support volunteers), delegates tasks so as not to overburden any one member of the team, and defines roles and areas of responsibility to help ensure efficient and effective care. (Currently, two RNs carry a caseload of up to 25 persons with ARC or AIDS.)

In this role, the case manager monitors the acute, chronic, and psychosocial needs of the client and is there to intervene when the client feels overwhelmed by the system.

Although MAP's medical case management program is only a two-year demonstration project, its lessons should be far-reaching: As the complexity of medical and social services increases, we must reach out to find new ways to truly support those who are unable to cope with our "helping" system.

There is nothing unique in the fragmentation of services for persons with AIDS.

---

*Linda Brandt is a nurse case manager at the Minnesota AIDS Project.*

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# The Prevalence of Human Immunodeficiency Virus (HIV) Infection and Self-Perception of Risk for HIV Infection among Heterosexuals at a Minnesota Counseling and Testing Site

*Keith Henry, M.D.; Margaret Carman, M.P.H.; Scott Campbell, M.S.P.H.; and Karen Willenbring*

**Between May and September of 1987, 229 consecutive self-described heterosexuals seeking an "AIDS blood test" came to a counseling and testing site located in St. Paul, Minnesota. None of the 229 clients had sera reactive for the presence of HIV antibodies. Results of an anonymous survey revealed that half the respondents never use condoms during sex; 45% estimated that the risk of HIV transmission upon the incidence of unprotected intercourse with an infected partner was 50-100%. The most common reason cited for seeking the antibody test was sexual contact with partners who were not well known by the respondent. Almost half (48%) reported having sex with five or more partners over the previous five years, with 98 (43%) reporting sexual contact with partners who were members of groups at higher risk for HIV infection. This study demonstrates the low prevalence of HIV infection among Minnesota heterosexuals and also suggests that the heterosexuals who seek HIV-antibody testing typically do so because of 1) their overestimate of both the risk of infection upon sexual exposure and of the prevalence of infection, 2) low rates of condom use, and 3) a sexual history involving multiple partners not well known by the person who seeks antibody testing. HIV-antibody counseling and testing sites that serve heterosexual clients need to target higher-risk clients and address the reasons heterosexuals seek testing.**

Tests for antibodies to the human immunodeficiency virus (HIV) became available in 1985. The initial use was to safeguard the blood supply by screening for HIV antibodies. Later that year, counseling and testing sites (CTSs or "alternate test sites") were established throughout the United States to screen individuals at high risk for HIV infection for the presence of HIV antibodies and to provide risk-reduction counseling.[1] As the public became more aware of the acquired immunodeficiency syndrome (AIDS), many sites were overwhelmed with individuals requesting HIV testing. Increasingly, clients seen at these sites were heterosexuals at relatively lower risk for HIV infection.[2] We report our findings regarding HIV risk and perceptions of risk among heterosexuals at a CTS located in Minnesota.

## Materials and Methods

Between May and September of 1987, 229 consecutive self-identified heterosexuals requested HIV-antibody testing at a counseling and testing site located at Room 111, a sexually transmitted disease clinic in St. Paul, Minnesota. Each subject was tested for HIV antibodies by an enzyme-linked immunosorbent assay (EIA) that is highly sensitive for the detection of HIV antibody.[3]

All of the 229 subjects also agreed to complete an anonymous "heterosexual risk assessment survey." The survey consisted of 10 questions that asked the respondents for sexual behavior information, such as their use of condoms, their number of sexual partners over the last five years, characteristics of their sexual partners, etc. The survey also sought information on the respondents' estimates of the prevalence of HIV infection among various population groups, their estimate of their own chance of infection in the event of unprotected intercourse with an HIV-infected individual, and the reasons why they sought an HIV-antibody test. In addition to the 10 questions, the survey requested various demographic information.

The two-page survey was anonymously completed by each subject, collected by a clinic nurse, and assigned a study number. Statistical significance was determined by standard univariate analysis.[4] All patients gave consent for the HIV serology and were provided information about the test and counseled by specialized nurses.

## Results

None of the 229 blood samples tested was repeatedly reactive by EIA.

**Demographic characteristics:** Table 1 summarizes the demographic characteristics of the study population. Nineteen percent of the subjects were unemployed (men 13/105, 12%; women 28/117, 24%).

**Number of partners:** The respondents' estimates of their number of partners are summarized in Table 2.

**Characteristics of sexual partners:** Ninety-eight of the respondents (42.7%) reported that they have had sex with a partner who is a member of at least one of the following higher-risk groups: a male or female prostitute, an IV drug abuser, a bisexual or homosexual male, or a person from Haiti or Central Africa (Table 3).

Forty-three of the 98 subjects

**TABLE 1**
Summary of demographics

| | Male (106) | Female (118) | TOTAL* (229) |
|---|---|---|---|
| **Age** | | | |
| mean | 34.5 years | 32.4 years | 33.4 years |
| median | 33 years | 30.5 years | 32 years |
| **Race** | | | |
| caucasian | 90 | 115 | 210 |
| other | 16 | 3 | 19 |
| **Marital Status** | | | |
| single | 57 | 61 | 122 |
| married | 21 | 19 | 40 |
| sep/divorced | 28 | 35 | 64 |
| **Education** | | | |
| high school | 55 | 49 | 118 |
| college | 49 | 67 | 107 |

*Five respondents did not specify their sex. All the totals reflect the data available from all respondents.

**TABLE 2**
Number of sexual partners over the previous five years

| Number of Partners | n = 229 No. | Percent |
|---|---|---|
| 0 | 1 | (.4%) |
| 1 | 18 | (7.9%) |
| 2-5 | 99 | (43.2%) |
| 5-10 | 56 | (24.5%) |
| 10-25 | 32 | (14.0%) |
| >25 | 23 | (10.0%) |

**TABLE 3**
Previous high-risk sexual partners

| Previous sexual partners | No. | (%) |
|---|---|---|
| **Men n=63*** | | |
| Prostitute | 37 | (58.7%) |
| Intravenous drug user | 17 | (27.0%) |
| Homosexual/bisexual man | 7 | (11.1%) |
| Person from Haiti/C. Africa | 2 | (3.2%) |
| **Women n=53*** | | |
| Homosexual/bisexual man | 26 | (49.1%) |
| Intravenous drug user | 20 | (37.7%) |
| Prostitute | 6 | (11.3%) |
| Person from Haiti/C. Africa | 1 | (1.9%) |

*Some subjects chose more than one response; 42.7% of the subjects chose at least one of the responses above.

**TABLE 4**
Respondent estimates of condom use by themselves or their sex partners

| Percent of time condom worn | No. (n=229) | Percent |
|---|---|---|
| 100% | 19 | (8.5%) |
| 75-99% | 23 | (10.3%) |
| 50-75% | 19 | (8.5%) |
| 25-50% | 8 | (3.6%) |
| 1-25% | 41 | (18.4%) |
| Never | 113 | (50.7%) |

who reported having sex with a higher-risk partner indicated concern about the HIV status of their partners compared with 25 of the 129 subjects who did not report sexual contact with a high-risk individual. This difference was significant (chi-square 15.9; p <.001).

**Condom use:** The percentage of the time that the respondents use condoms is summarized in Table 4.

**Knowledge of prevalence of infection:** The respondents' estimates of the prevalence of HIV infection among the Minnesota and U.S. heterosexual populations are shown in Figure 1.

**Knowledge of risk of transmission:** Table 5 gives a summary of the respondents' estimate of the risk of HIV infection upon a single incident of unprotected sexual intercourse with an HIV-infected partner.

**Reasons for requesting an HIV blood test:** The most common response to the statement "I came to get the AIDS test because. . . " was "I had sex with different partners I didn't know very well," selected by 49% of the respondents. This was one of many possible choices given to the subjects, and the spectrum of responses to this question is shown in Table 6. On a separate item, 70 of the respondents (30.6%) indicated that they have had sex with someone they suspect may be infected with the AIDS virus.

**Sex-related differences:** Univariate analysis did not demonstrate significant differences between male and female respondents in regards to level of education, marital status, age, or in their estimates of the chance of HIV infection upon practicing unprotected sexual intercourse or their estimates of the prevalence of HIV infection among different population groups. Table 3 describes the differences between the male and female subjects in risk characteristics of their sexual partners.

**Race-related differences:** There was no correlation in the relationship between race and variables of sex and of age. In relation to mari-

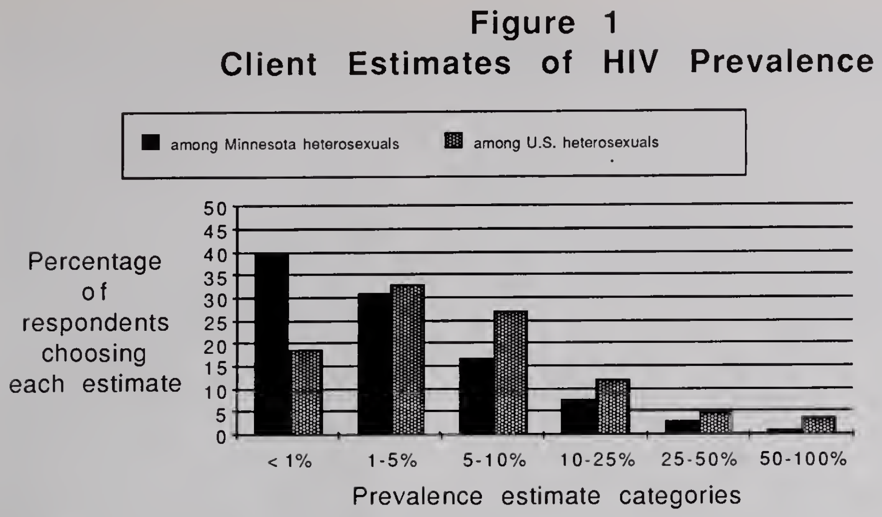

**FIGURE 1—Client estimates of HIV prevalence.**

tal status, 56% of the caucasian subjects were single, 16% were married, and 27% divorced or separated. Among the minority subjects, 26% were single, 37% married, and 37% were separated or divorced.

No racial differences were noted in regards to sexual practices, such as the number of sexual partners, estimates of condom use, the level of concern that a past partner was possibly HIV infected, or the knowledge of HIV heterosexual prevalence levels. Minority subjects gave higher estimates of the risk of infection upon unprotected intercourse with an HIV-infected partner than the white respondents ($p < .01$). Notably, 19 caucasians claimed to use condoms 100% of the time, while no minority subjects made that claim.

**Education-related differences:** Analysis of the relationship between level of education and other variables was done by placing the respondent in one of two categories, 1) college educated and 2) not college educated. The level of education was not significantly related to the marital status, sex, age of the respondents, or sexual practices as defined by 1) use of condoms and 2) number of sexual partners.

The high school graduates tended to have sexual partners who were members of a higher-risk group for HIV infection more frequently than those subjects who were college graduates (52/107 vs. 42/118; $p < .05$).

Although the level of education was not correlated with the participant's knowledge of the risk of HIV infection upon unprotected intercourse with an HIV-positive partner, there was a strong positive correlation between the level of education and more accurate estimates of the prevalence of HIV infection among the U.S. heterosexual population ($p < .01$).

**Marital status-related differences:** For data analysis, subjects were placed in one of three categories: 1) single, never married (53.2% of subjects), 2) married (17.4%), and 3) divorced or separated (28%). Table 7 displays these percentages in comparison with the percentages of married, single, and separated/divorced subjects within Minnesota. The proportion of single/never married subjects and divorced/separated subjects in the study population was significantly higher than the same proportions in the Minnesota population, even after adjusting for the difference in the age of these populations (Table 7).

Marital status was not correlated with the subject's sex or level of education. However, marital status was correlated to the age of the respondent. The mean age of the single/never married respondent was 28.9 years old, which was significantly younger ($p < .01$) than the mean age for married subjects (38.1 years) and those subjects who were divorced or separated (38.0 years).

Marital status also correlated with the estimated number of sexual partners. Married respondents gave a significantly lower estimate of their number of partners over the previous five years than their single, divorced, or separated counterparts ($p < .01$, 8df). Marital status was not correlated with other parameters measured.

**Age-related differences:** A significant tendency was noted for younger subjects to report a higher number of sexual partners than their older counterparts. One-third of those under age 30 (25 out of 74 subjects) reported having 10 or more sexual partners over the last five years, while only one-fifth of those age 30 or older (30 out of 145 subjects) placed themselves in this category.

A relationship was observed between age and subjects' knowledge of the prevalence of HIV infection among heterosexual Minnesotans. Nineteen of 68 subjects (28%) under age 30 correctly identified "less than 1%" as the prevalence of HIV infection among heterosexual Minnesota men and women, while 60 of 126 subjects (48%) age 30 or over chose this response. This difference was significant ($p < .01$).

**TABLE 5**

Respondent estimate of the risk of HIV transmission upon unprotected vaginal intercourse with an infected partner

| Estimated chance of transmission | No. (n = 22) | (%) |
|---|---|---|
| <1% | 22 | (9.9%) |
| 1-5% | 31 | (14.0%) |
| 5-10 % | 23 | (10.4%) |
| 10-25% | 22 | (9.9%) |
| 50-75% | 25 | (11.3%) |
| 50-75% | 41 | (18.5%) |
| 75-100% | 58 | (26.1%) |

**TABLE 6**
Reasons for requesting HIV antibody testing

| | No. | Percent |
|---|---|---|
| **Men n = 106†** | | |
| I had sex with different partners I didn't know very well | 53 | (50.0%) |
| I had sex with a female prostitute | 31 | (29.2%) |
| I have participated in oral sex | 26 | (24.5%) |
| I had sex with someone who is at risk for AIDS infection | 23 | (21.7%) |
| I had sex with someone who could be infected with the AIDS virus | 23 | (21.7%) |
| Someone told me I should get the AIDS test | 15 | (14.2%) |
| I had sex with someone who shoots up drugs | 14 | (13.2%) |
| I wish to reassure or protect my sexual partner(s) | 7 | (6.6%) |
| I abuse IV drugs | 4 | (3.8%) |
| I have participated in anal sex | 4 | (3.8%) |
| I believe I was exposed while at work | 4 | (3.8%) |
| I had sex with a male prostitute | 2 | (1.9%) |
| Spouse/partner had sex with another person | 2 | (1.9%) |
| I received a blood transfusion | 2 | (1.9%) |
| I think I have AIDS | 1 | (0.9%) |
| I had sex with someone who had symptoms of AIDS | 1 | (0.9%) |
| Other* | 11 | (10.4%) |
| **Women n = 118†** | | |
| I had sex with different partners I didn't know well | 58 | (49.2%) |
| I have participated in oral sex | 45 | (38.1%) |
| I had sex with someone who could be infected with the AIDS virus | 30 | (25.4%) |
| Someone told me I should get the AIDS test | 24 | (20.3%) |
| I had sex with someone who is at risk for AIDS infection | 23 | (19.5%) |
| I had sex with someone who shoots up drugs | 18 | (15.3%) |
| I have participated in anal sex | 14 | (11.9%) |
| I received a blood transfusion | 7 | (6.6%) |
| I wish to reassure or protect my sexual partner(s) | 7 | (6.6%) |
| I had sex with a male prostitute | 4 | (3.4%) |
| Spouse/partner had sex with another person | 4 | (3.4%) |
| I had sex with someone who had symptoms of AIDS | 3 | (2.5%) |
| I was sexually assaulted | 3 | (2.5%) |
| I think I have AIDS | 2 | (1.7%) |
| I abuse IV drugs | 1 | (.8%) |
| Other* | 11 | (9.3%) |

*These responses were mostly non-specific answers written in by the respondent, such as "I'm curious," "media hype," "It's a good thing to do," "paranoid," etc. More specific responses included "club requirement," "donor insemination in 1984."
†From "Minnesota Data Book 1985-1986" (ref 13).

No significant relationship was found between age and condom use, concern about HIV status of partners, or estimate of HIV transmission rate.

## Discussion

Three findings from this study are particularly noteworthy. First is the observation that out of all 229 heterosexual clients who requested HIV testing at this CTS between May and September of 1987, none yielded a positive test for HIV antibody.

The risk of heterosexual transmission of HIV in Minnesota at present is low. As Peterman, et al. have noted,[5] the risk of acquiring infection through sexual contact depends upon two variables: the number of sexual contacts with an infected partner, and the likelihood of transmission during sexual contact with an infected partner. Further, the number of sexual contacts with an infected partner will depend upon the number of partners, the number of sexual contacts with each partner, and the prevalence of infection in those partners. Because the prevalence of infection among Minnesota heterosexuals is most certainly less than 1%[6,7] and since the estimated risk of heterosexual transmission upon a single exposure to an infected partner is less than 1%,[5] the overall risk of exposure and subsequent transmission of the virus is currently low.

Despite this, the Minnesota Department of Health reports that 5% (23/461) of recent HIV-positive cases reported in Minnesota are heterosexuals who are not members of any of the higher-risk groups for HIV infection.[7] The absence of any HIV-positive heterosexuals at this test site between May and September of 1987 may indicate that many of the heterosexuals who are at higher risk for acquiring HIV infection are, for reasons unknown, not seeking antibody testing at a CTS. In the Twin Cities metro area from July 1985 to

**TABLE 7**
Marital status comparison between the respondents and Minnesota population

| | Subjects | | Minnesota |
|---|---|---|---|
| Marital Status | No.* | crude rate | Gen. Pop.† |
| Single/never married | 122 | 53.3% | 28.5% |
| Married | 40 | 17.5% | 58.5% |
| Divorced/Separated | 64 | 27.9% | 6.0% |

*Three subjects were widowed
†From "Minnesota Data Book 1985-1986" (ref 13)

March 1986, only 25.4% of nondonor screening was done at alternate test sites such as Room 111 and the Red Door Clinic, while 75.6% of antibody testing was performed at a clinical site.[8] More recent data indicate that the current percentage of HIV testing being done by private physicians may be even higher than 75%.[9] A large percentage (132/229, 58%) of our CTS heterosexual population consisted of heterosexuals who reported no sexual contact with higher-risk partners and did not report being a member of any high-risk group. These people are commonly referred to as the "worried well"—those individuals not at high risk for exposure to HIV but who nevertheless seek HIV testing for their own reassurance.

Considerable mention has been made in recent months concerning this "worried well" population, who are requesting antibody testing in increasing numbers. This phenomenon has been documented by a study done in London, where the number of patients requesting antibody testing increased 300% shortly after a media campaign in England had begun to emphasize the potential heterosexual spread of HIV.[10] During the same time frame in London, it was noted that along with the overall increase in numbers, the proportion of women and heterosexual men requesting testing had increased.[11] Why do low-risk individuals desire testing?

This question leads to the study's second noteworthy finding: the reasons clients who come to a CTS request HIV-antibody testing. Review of Table 6 indicates that the most common reason for requesting HIV-antibody testing among both the male and female clients was "I had sex with different partners that I didn't know very well." This reason was given by half of both the male and female clients. The second most common reason given by the men was because of their previous sexual contact with female prostitutes. A significant number of both male and female clients indicated concern about a specific previous partner being infected with the virus or of being at risk for infection. In relation to this, 22 clients (10%) stated that their reason for requesting antibody testing was because a sexual partner was an IV drug abuser. The various reasons for requesting antibody testing are very similar in ranking to a study of 360 heterosexual men and women who requested testing at a London clinic in the last three months of 1986. Among this group, the No. 1 and 2 reasons among the male clients were, respectively, concern about vaginal intercourse with several casual partners and concern about vaginal intercourse with prostitutes.[10] Both studies indicate that many heterosexuals choose to be tested because they are concerned about a previous partner they did not know well.

We believe that, in addition to the above client-identified reasons, there are various assumptions, misconceptions, and sexual practices which underly the reasons given by the client for seeking testing. We have identified some of these misconceptions and behaviors. One important misperception among the heterosexual population is the overestimate of the risk of HIV transmission upon heterosexual sexual contact. Table 5 shows that only 10% of the respondents estimated the chance of transmission upon a single sexual exposure to a positive partner as being less than 1%. Instead, nearly half the respondents (45%) estimated this risk to be 50% or greater. Another misconception, although less common, was the overestimate of the prevalence of the HIV virus among the heterosexual population. Figure 1 demonstrates that 19% of the respondents estimated the prevalence among U.S. heterosexuals to be less than 1%, but 21% of them believe the prevalence to be 10-25% or greater.

In addition to these overestimates, the survey also revealed low rates of condom use and a history of multiple partners among the participants. Half of the respondents reported that they never use condoms, and only about one-fourth (27%) reported using condoms at least 50% of the time (Table 4). Although married subjects reported a significantly smaller number of sexual partners over the previous five years, condom use was not significantly different for single, divorced/separated, or married respondents. A history of multiple partners was also found, with about half the respondents reporting five or more sexual partners over the previous five years, and about one-fourth of the participants reporting 10 or more partners during that time (Table 2).

The third noteworthy finding of this study is that high-risk behavior does exist among self-described heterosexuals. Seven of the male subjects identified themselves as heterosexuals when asked by a nurse but on the questionnaire admitted to participating in homosexual behavior. Those who perform HIV testing should keep in mind that some clients who seek the HIV-antibody test may deny their participation in high-risk behaviors upon initial evaluation. Five of the subjects identified themselves as previously or currently being IV drug abusers. In addition, 98 of the subjects reported previous sexual contact with a partner or partners who are at higher risk for exposure to HIV (Table 3). These observations underscore the potential value of pre-test evaluation and counseling efforts.

When all of the above is considered, it is understandable that these heterosexual individuals sought antibody testing. In summary, the typical heterosexual seeking testing at this CTS was single, had a history of multiple partners, was concerned about a previous casual partner, was not usually using condoms, and tended to overestimate the prevalence of the virus and the risk of transmission upon sexual exposure to the virus.

In interpreting these findings, some qualifying statements are necessary. This study population is self-selected. Therefore, although the subjects may be representative of the population of heterosexuals who seek HIV-antibody testing at a CTS, these findings cannot be generalized to the surrounding heterosexual population living within the Minneapolis-St. Paul area (i.e., see Table 7). For example, single/never married individuals were overrepresented in the study population.[12] That group may be more likely to seek HIV testing based on a perception of greater HIV risk due to a larger number of sexual partners than other groups within the general population. In addition, the study population had an unemployment rate nearly four times the rate within the surrounding metropolitan statistical area (MSA) yet had a significantly higher educational level than the surrounding MSA.[13] Unemployed individuals might be more likely to seek HIV testing at a free clinic during daytime hours than their employed counterparts.

In spite of the above qualifiers, valid inferences can be made. Many low-risk individuals are requesting HIV testing in Minnesota and nationwide, yet appropriate education may serve to keep some of them from seeking unnecessary antibody testing. In addition, even among concerned individuals who are at an apparent low risk for infection, there may be a subset that is at higher risk for HIV infection. These higher-risk individuals must be identified so that appropriate education may be given. Public health education efforts to increase both knowledge about transmission and risk-reducing behaviors of the entire population need further exploration and evaluation. These efforts may decrease the proportion of low-risk individuals who are seeking HIV-antibody testing. Counseling and testing sites, along with physicians in private and group practice, must focus their HIV-antibody testing and education efforts on those who are at a higher risk for infection, while providing reassurance for those at low risk.

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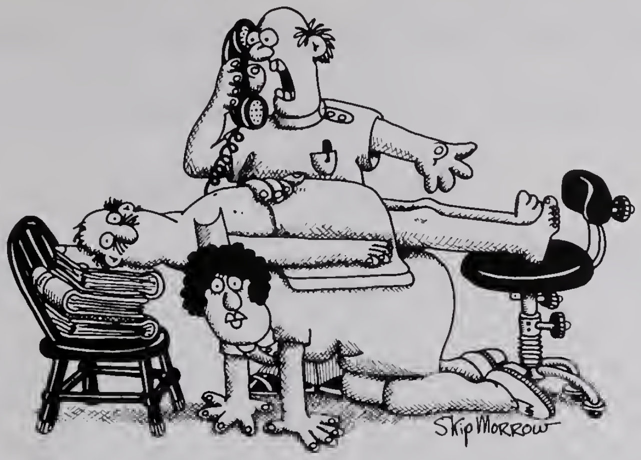

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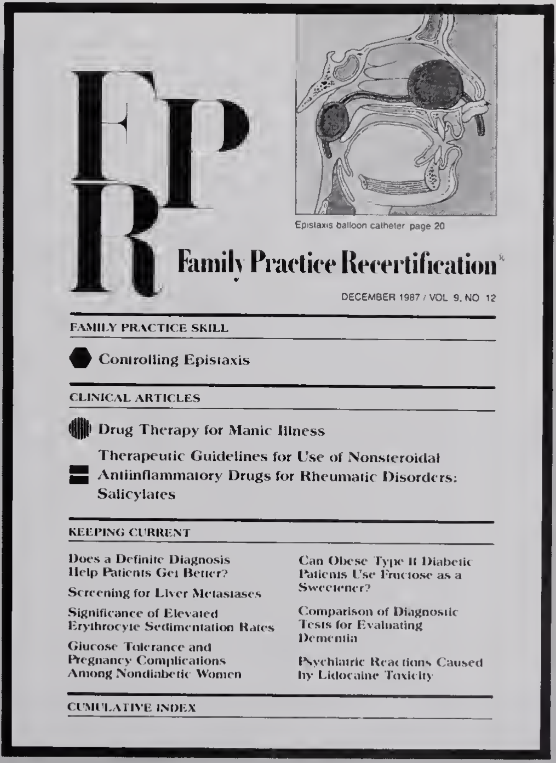

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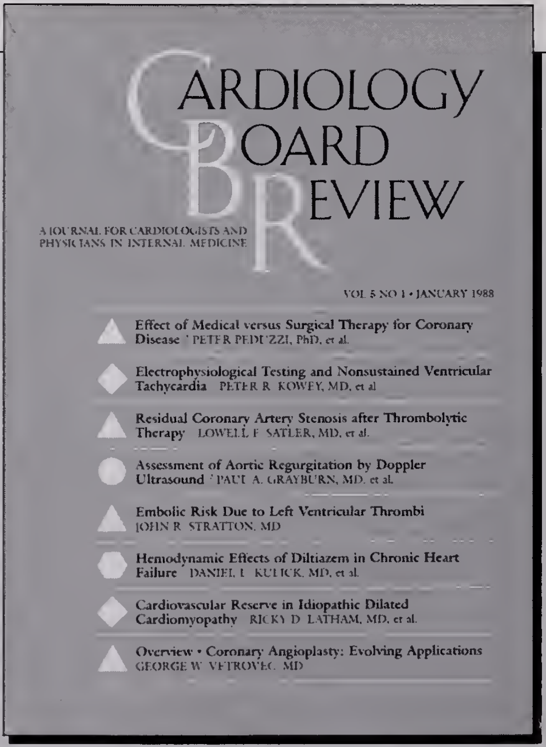

CARDIOLOGY BOARD REVIEW

A JOURNAL FOR CARDIOLOGISTS AND PHYSICIANS IN INTERNAL MEDICINE

VOL 5 NO 1 • JANUARY 1988

Effect of Medical versus Surgical Therapy for Coronary Disease PETER PEDUZZI, PhD, et al.

Electrophysiological Testing and Nonsustained Ventricular Tachycardia PETER R KOWEY, MD, et al

Residual Coronary Artery Stenosis after Thrombolytic Therapy LOWELL F SATLER, MD, et al.

Assessment of Aortic Regurgitation by Doppler Ultrasound PAUL A. GRAYBURN, MD, et al.

Embolic Risk Due to Left Ventricular Thrombi JOHN R STRATTON, MD

Hemodynamic Effects of Diltiazem in Chronic Heart Failure DANIEL L KULICK, MD, et al.

Cardiovascular Reserve in Idiopathic Dilated Cardiomyopathy RICKY D LATHAM, MD, et al.

Overview • Coronary Angioplasty: Evolving Applications GEORGE W VETROVEC, MD

*Journals reviewed include: *Circulation*, *American Heart Journal*, *Journal of the American College of Cardiology*, *British Heart Journal*, *Chest*, *The American Journal of Cardiology*, *The New England Journal of Medicine*, *Annals of Internal Medicine*, *American Journal of Medicine*, and *The Journal of the American Medical Association*.

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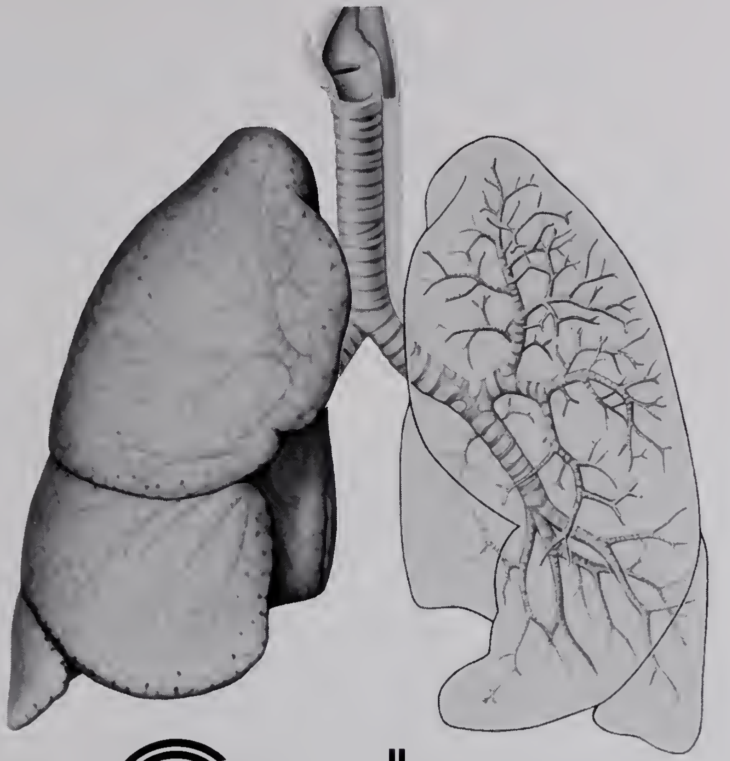

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**Warnings:**
CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS

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- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
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- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, and serum-sickness-like reactions that have included erythema multiforme [rarely, Stevens-Johnson syndrome] or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever): 1.5%; usually subside within a few days after cessation of therapy. Serum-sickness-like reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertonia, dizziness, and somnolence have been reported.
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- Slight elevations in hepatic enzymes.
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**Carcinogenesis, Mutagenesis, Impairment of Fertility:** Chronic oral toxicity studies of 24 months' duration were conducted in mice and rats at doses up to 1 gm/kg (12 times the human dose). There was no evidence of drug-related tumorigenicity. A reproduction study in rats at doses up to 38 times the human dose did not reveal any indication of fertility impairment. Mutagenicity studies were not conducted.

**Pregnancy:** Teratogenic effects. Pregnancy Category B. Teratogenicity studies have been performed in mice, rats, and rabbits at doses up to 50 times the human dose and have revealed no evidence of harm to the fetus due to sucralfate. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

**Nursing Mothers:** It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when sucralfate is administered to a nursing woman.

**Pediatric Use:** Safety and effectiveness in children have not been established.

**ADVERSE REACTIONS**
Adverse reactions to sucralfate in clinical trials were minor and only rarely led to discontinuation of the drug. In studies involving over 2,500 patients treated with sucralfate, adverse effects were reported in 121 (4.7%).

Constipation was the most frequent complaint (2.2%). Other adverse effects, reported in no more than one of every 350 patients, were diarrhea, nausea, gastric discomfort, indigestion, dry mouth, rash, pruritus, back pain, dizziness, sleepiness, and vertigo.

**OVERDOSAGE**
There is no experience in humans with overdosage. Acute oral toxicity studies in animals, however, using doses up to 12 gm/kg body weight, could not find a lethal dose. Risks associated with overdosage should, therefore, be minimal.

**DOSAGE AND ADMINISTRATION**
The recommended adult oral dosage for duodenal ulcer is 1 gm four times a day on an empty stomach.

Antacids may be prescribed as needed for relief of pain but should not be taken within one-half hour before or after sucralfate.

While healing with sucralfate may occur during the first week or two, treatment should be continued for 4 to 8 weeks unless healing has been demonstrated by x-ray or endoscopic examination.

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Issued 1/87

**References:**
1. Korman MG, Shaw RG, Hansky J, et al: *Gastroenterology* 80:1451-1453, 1981.
2. Korman MG, Hansky J, Merrett AC, et al: *Dig Dis Sci* 27:712-715, 1982.
3. Brandstaetter G, Kratochvil P: *Am J Med* 79 (suppl 2C):36-38, 1985.
4. Marks IN, Wright JP, Gilinsky NH, et al: *J Clin Gastroenterol* 8:419-423, 1986.
5. Lam SK, Hui WM, Lau WY, et al: *Gastroenterology* 92:1193-1201, 1987.

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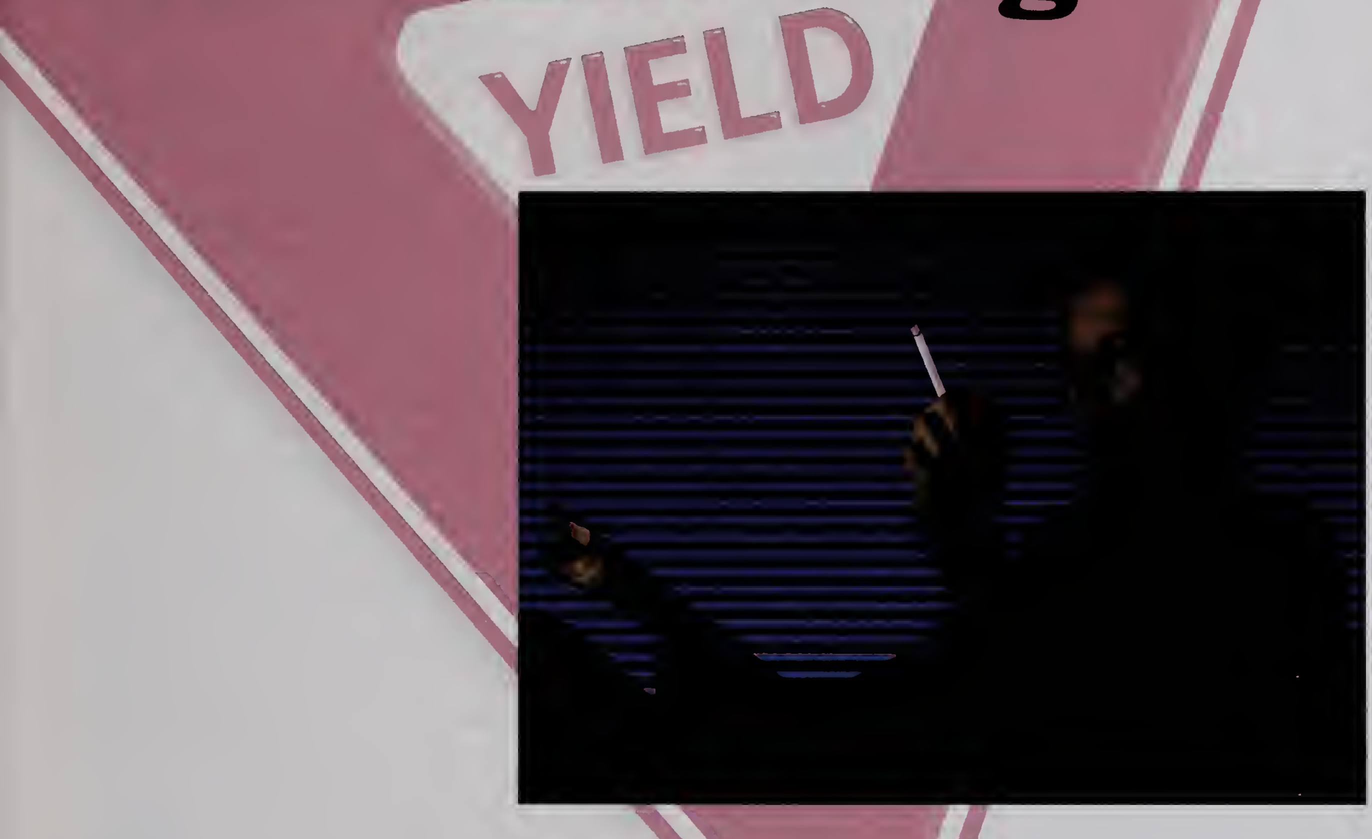

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**Ulcer healing rates:**
(at four weeks of therapy)[5]

| | |
|---|---|
| **Sucralfate:** | |
| All patients | 79.4% |
| Smokers | 81.6%* |
| **Cimetidine:** | |
| All patients | 76.3% |
| Smokers | 62.5% |

*Significantly greater than cimetidine smoker group ($P < .05$).

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Please see adjoining page for references and brief summary of prescribing information.

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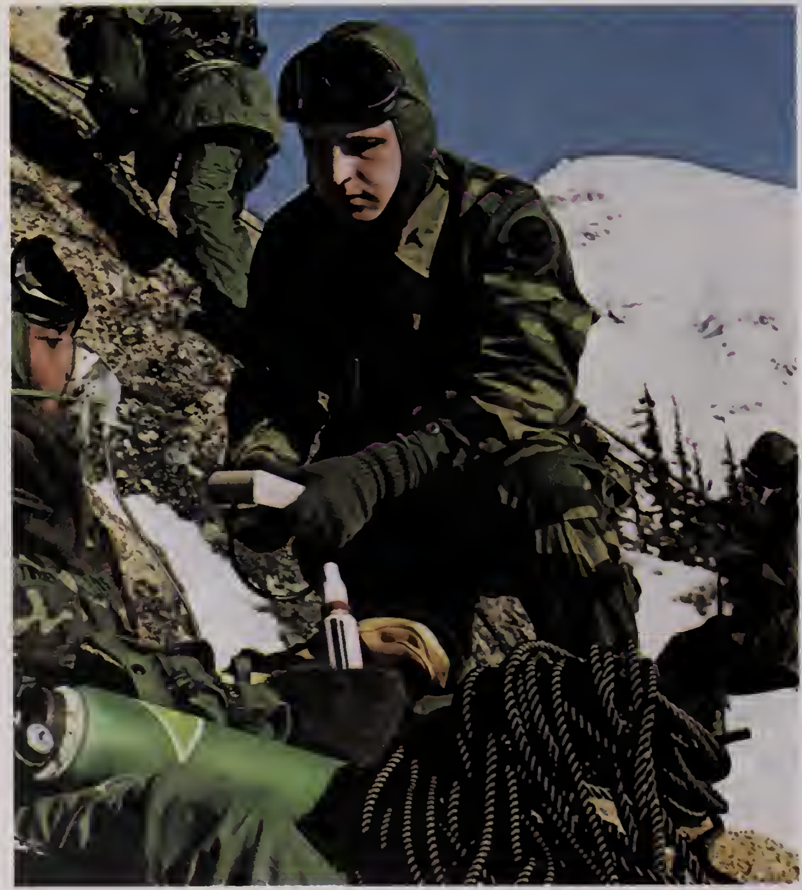

Soldier being examined for effects of high-altitude cerebral edema.

ALLAN J. HAMILTON, M.D.

Neurosurgical Resident and Research Fellow, Massachusetts General Hospital, Boston, Massachusetts. Captain, U.S. Army Reserve.

EDUCATION Ithaca College, B.A. (Magna Cum Laude); Hamilton College (Pre-med); Harvard Medical School.

RESIDENCY General Surgical Internship. Neurosurgical Residency, Massachusetts General Hospital.

CONTINUING EDUCATION Neurology and Neurosurgery Research Fellowship Training, National Institutes of Health.

OUTSTANDING ACHIEVEMENTS Olsen Memorial Fellowship, National Masonic Medical Research Foundation; Albert Schweitzer Fellowship, International Albert Schweitzer Foundation; Harvard Medical School Cabot Prize for Best Senior Thesis; recently published article, "Who Shall Live and Who Shall Die" in Newsweek Magazine.

"The work I'm doing in the Army Reserve fits perfectly with my academic research interests in civilian life. The Army is very concerned with the effects of high-altitude cerebral edema, which is a mirror model of cerebral hypoxia, something I deal with every day in our neurosurgical intensive care unit. I couldn't ask for a smoother transition. And that's true for a lot of Reserve physicians. All we really do is change our clothes, not our mindset.

"Some of the projects the Army is undertaking are on the cutting edge of research. For example, I'm currently involved in developing for the Army a prototype of a non-invasive intracranial pressure-monitoring device that we hope will allow us to measure pressure changes as the brain swells—without drilling holes in the skull. If we can get our design to work, such a device could revolutionize high-altitude medicine as well as civilian neurosurgical care.

"The quality of medicine and the caliber of people I've been associated with in the Army Reserve are, without question, equal to civilian hospitals. In fact, I'm giving serious consideration to applying for an active duty academic position in Army Medicine when my residency ends at Massachusetts General."

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# The Minnesota AIDS Physician Survey

## A Statewide Survey of Physician Knowledge and Clinical Practice Regarding AIDS

*James M. Shultz, M.S.; Kristine L. MacDonald, M.D.; Karen A. Heckert, M.S.W., M.P.H.; and Michael T. Osterholm, Ph.D., M.P.H.*

**In the spring of 1987, the Minnesota Department of Health (MDH) surveyed a random sample of Minnesota primary care physicians regarding knowledge and clinical practice for acquired immunodeficiency syndrome (AIDS) and human immunodeficiency virus (HIV) infection. While only 3% of primary care physicians had reported a case of AIDS to the MDH, 35% had treated at least one patient with HIV infection and 70% had ordered an HIV-antibody test, indicating that HIV infection is relatively common in primary care practice in Minnesota. Twenty-six percent of survey respondents routinely assessed patient risks for acquiring HIV infection. Twenty-seven percent reported at least moderate discomfort working with homosexual patients (87% of Minnesota AIDS cases have occurred in homosexual or bisexual men). Physicians can play a key role in curbing the HIV epidemic through providing risk assessment and HIV counseling and testing; therefore, additional and ongoing physician education is needed. Survey results suggest that these education programs should focus on encouraging physicians to: 1) seek updated information about HIV diseases, 2) assess risks for acquiring HIV infection as part of routine primary care, 3) provide AIDS prevention education for at-risk patients, 4) provide HIV-antibody testing with test-linked counseling for at-risk patients, 5) identify community-based resources to address the psychosocial needs of patients with HIV-related diseases, and 6) confront negative attitudes and discomfort with homosexual patients.**

Minnesota is currently a "low-incidence" state for the acquired immunodeficiency syndrome (AIDS), ranking 23rd among states and territories in numbers of reported cases; 323 cases had been reported to the Minnesota Department of Health (MDH) as of March 14, 1988. However, five-year projection models predict that cumulative AIDS cases in the state will exceed 1,200 by year-end 1990.[1] Currently, we estimate that between 10,000 and 30,000 people in the state are infected with the human immunodeficiency virus (HIV). Based on clinical follow-up of individuals enrolled in the San Francisco City Clinic Cohort Study, we estimate that at least half of currently HIV-infected persons in Minnesota will develop AIDS or AIDS-related conditions by 1995.[2] These ever-increasing case numbers may place a major demand on the practicing physicians in Minnesota.

In addition to concerns about providing patient care, recent attention has also been directed at the role of physicians in providing leadership to help curb the AIDS epidemic.[3] Physicians clearly can fulfill an important public health function by identifying patients at risk for acquiring HIV infection and providing them with risk-reduction education. Physicians also can offer HIV-antibody testing associated with pre- and post-test counseling.[4]

The epidemiology of HIV infection and the clinical care of AIDS patients are rapidly changing areas of medicine. HIV-related diseases also involve complex moral, legal, ethical, and psychosocial issues. It is difficult to keep abreast of the many facets of the AIDS epidemic, emphasizing the need for ongoing physician education.

To facilitate future physician education in Minnesota, the MDH conducted a survey of a random sample of Minnesota physicians. The physician survey was designed to assess existing levels of knowledge about HIV infection, clinical practices for care, and attitudes toward AIDS and homosexuality. The Minnesota Medical Association (MMA) provided review and approval of the project. Results are presented in this report.

### Methods

**Survey participants:** A random sample of Minnesota primary care physicians was obtained using the MMA physician data base, which contains information on all physicians licensed to practice medicine in Minnesota. Survey participants were drawn from 2,700 family practice (1,619) and internal medicine (1,081) physicians in the state, specialties most likely to assess HIV-infected patients at this time. The sample size was calculated to allow a maximum error of 5% with a 90% confidence limit (n = 241). This estimate was inflated by a multinomial correction factor of 1.53, yielding a required sample of 369.[5] To correct for an anticipated 60% response rate, the required random sample was increased to 614. The survey was also mailed to all 73 physicians who had reported AIDS cases to the MDH as of March 1, 1987. Physicians were stratified by zip code within specialty to accurately represent the geographic distribution of practicing physicians throughout the state.

**Survey mailings:** The survey was conducted anonymously. Selected physicians were mailed the survey (with no identifying information) and a reply postcard (with identifying information) to be returned separately to the MDH. This procedure permitted MDH staff to identify non-responders (for the purpose of follow-up mailings) while assuring anonymity. The first mailing was posted in March 1987. Reminder postcards were mailed 15 days later to physicians who had not returned a reply postcard. Two additional mailings of all materials and an enclosed reminder were mailed to non-responders at 30 days and 60 days, following the same procedure.

**Survey content:** Physicians were asked about the numbers of HIV-infected patients treated and HIV-antibody tests ordered. Respondents were asked whether they routinely assessed risk factors for HIV infection during comprehensive physical examinations and, if so, which specific risk factors were assessed. Physicians were asked to indicate the availability and content of AIDS prevention information and counseling provided, to identify the staff providing AIDS health education, and to specify community-based AIDS services to which they refer their patients. Likert scales were used to assess the degree of support for HIV-disease reporting and contact notification, and the level of interest in receiving AIDS information from a variety of sources.[6] Three questions assessed attitudes toward homosexuality. A multi-item question assessed knowledge about transmission for a series of occupational exposures and risk-related behaviors. Personal information requested included age, gender, medical subspecialty, type of practice, location of practice, and personal sexual preference.

Scales were created from multiple items to measure knowledge of transmission risks, numbers of HIV risks assessed, receptivity to AIDS information, scope of patient AIDS education/counseling, and homosexual bias. Data analysis included standard univariate and multivariate methods.[7]

**TABLE 1**
Personal characteristics of responding physicians

| Personal Characteristics | Randomly Sampled Physicians (N = 376) No. (%) | AIDS-Reporting Physicians (N = 43) No. (%) |
|---|---|---|
| **Gender** | | |
| Male | 321 (85) | 33 (77) |
| Female | 55 (15) | 9 (21) |
| Not given | 0 (0) | 1 (2) |
| **Age Group** | | |
| 20-29 | 14 (4) | 0 (0) |
| 30-39 | 161 (43) | 22 (51) |
| 40-49 | 88 (23) | 13 (30) |
| 50-59 | 49 (13) | 3 (7) |
| 60+ | 39 (10) | 0 (0) |
| Not given | 25 (7) | 5 (12) |
| **Sexual Preference** | | |
| Heterosexual | 365 (97) | 35 (81) |
| Homosexual | 8 (2) | 6 (14) |
| Bisexual | 0 (0) | 2 (5) |
| Not given | 3 (1) | 0 (0) |

## Results

### *Randomly Sampled Physicians*

**Survey respondent characteristics:** For the random sample, completed surveys were received from 376 physicians (61% response rate). Eighty-nine (15%) returned a reply postcard indicating that they declined participation, eight (1%) had no forwarding address, and 141 (23%) did not reply after three mailings. Personal and practice characteristics of the random sample and AIDS-reporting physicians who returned completed questionnaires are shown in Tables 1 and 2.

**Experience with HIV-infected patients:** One hundred thirty-two physicians (35%) indicated previous experience with an HIV-infected patient or person with AIDS; eight were known to have reported an AIDS case to the MDH (Note). Among these 132 physicians, 86 had seen either one or two HIV-infected patients (Figure 1). One hundred thirteen (45%) of 253 urban physicians had cared for patients with HIV-related illness compared with 19 (14%) of 123 rural physicians (OR = 4.4; 95% C.I. = 2.5, 7.9; $p < 0.001$). Internists were twice as likely to have treated HIV-infected patients (67 of 134, 50%) compared with family practitioners (56 of 228, 25%) (OR = 3.1; 95% C.I. = 1.9, 5.0; $p < 0.01$). Physicians based in academic institutions were particularly likely to have treated HIV-infected patients. A multiple regression analysis indicated that academic-based practice ($p < 0.0001$), metropolitan/urban residence ($p = 0.0001$), and specialization in internal medicine ($p = 0.0002$) were significant predictors of HIV-infected patient experience (measured as the natural log of numbers of HIV-infected patients seen). Seventy percent (263 physicians) had ordered at least one HIV-antibody test in the past 12 months.

**HIV risk assessment:** Ninety-eight physicians (26 percent) routinely asked patients about risk factors for acquiring HIV infection; risk-factor assessment was more common for physicians who had previously seen an HIV-infected patient (53 of 132) than for physicians who had not (45 of 244), (OR = 3.0; 95% C.I. = 1.8, 4.9; $p < 0.001$). The probability of assessment of each of seven specified risk factors was strongly related to numbers of HIV-infected patients treated (Table 3).

**TABLE 2**
Practice characteristics of responding physicians by level of HIV experience

| | Randomly Sampled Physicians | | | |
|---|---|---|---|---|
| Characteristics | Total (N=376) No. (%) | No HIV Disease Experience (N=244) No. (%) | HIV Disease Experience (N=132) No. (%) | AIDS-Reporting Physicians (N=43) No. (%) |
| **Medical Subspecialty** | | | | |
| Family Practice | 228 (61) | 172 (71) | 56 (42) | 11 (26) |
| Internal Medicine | 134 (36) | 67 (28) | 67 (51) | 28 (65) |
| Other | 14 (4) | 5 (2) | 9 (7) | 4 (9) |
| **Type of Practice*** | | | | |
| Private | 280 (75) | 202 (83) | 78 (59) | 22 (51) |
| HMO | 33 (9) | 20 (8) | 13 (10) | 9 (21) |
| Academic | 36 (10) | 11 (5) | 25 (19) | 9 (21) |
| Industrial | 2 (1) | 0 (0) | 2 (2) | 0 (0) |
| Other | 25 (7) | 11 (5) | 14 (11) | 3 (7) |
| **Location of Practice**** | | | | |
| Twin Cities Metro Area | 197 (52) | 110 (45) | 87 (66) | 36 (84) |
| Other urban | 56 (15) | 30 (12) | 26 (20) | 5 (12) |
| Outstate | 123 (33) | 104 (43) | 19 (14) | 1 (2) |
| Not given | 0 (0) | 0 (0) | 0 (0) | 1 (2) |

*Type of practice: Private—private individual or group practice. HMO—health maintenance organization. Academic—university/teaching hospital-based. Industrial—industry/corporation-based.

**Location of practice: Twin Cities Metropolitan Area—seven county metropolitan area surrounding Minneapolis/St. Paul. Other urban—urban with >40,000 population (Duluth, Rochester, St. Cloud). Outstate—all other communities and rural areas.

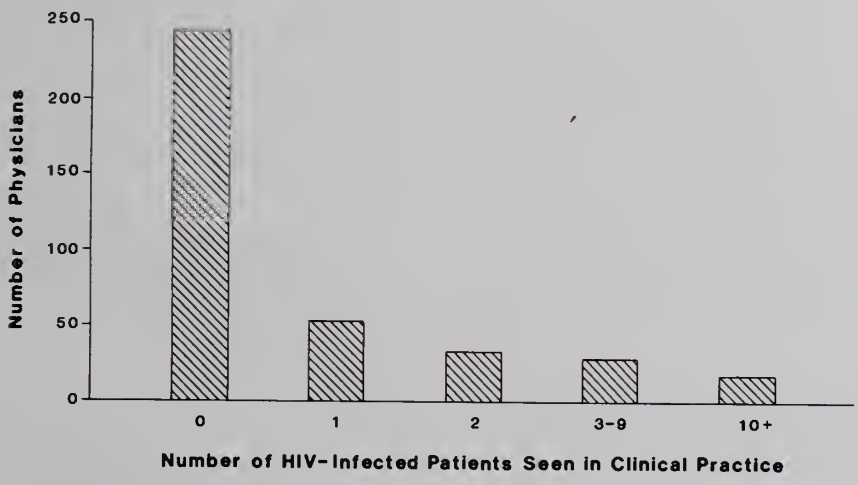

**FIGURE 1—The number of randomly sampled physicians (N=376) by number of HIV-infected patients seen in clinical practice.**

Regardless of level of experience with HIV disease, heterosexual risk behaviors were assessed much less frequently than homosexual/bisexual, intravenous drug use, and blood/blood component transmission risks (Table 3).

**Treatment of high-risk patients:** For the 132 physicians with experience treating HIV-infected patients, 130 (99%) indicated that they routinely discuss risks of transmitting HIV with their high-risk patients, 125 (95%) have suggested HIV-antibody testing to high-risk patients, 100 (76%) reported they have ordered HIV antibody tests, and 88 (67%) have referred patients for counseling. One hundred one (77%) indicated that they directly provide AIDS prevention information and counseling to their high-risk patients. Physicians were asked to indicate health education/risk-reduction topics that they either currently discuss with high-risk patients or would discuss with high-risk patients (if they see high-risk patients in their practice in the future). The probability of addressing each of eight health education topics was significantly related to numbers of HIV-infected patients treated (Table 4).

Physicians with experience treating HIV-infected patients (n=132) frequently refer high-risk patients to other services, including state-supported counseling and testing sites, 115 (87%); community-based AIDS projects, 96 (73%); public health departments, 107 (81%); mental health professionals, 86 (65%); and AIDS hotline services, 106 (80%).

**AIDS knowledge and receptivity to AIDS information:** A high level of knowledge about HIV transmission was noted among respondents. For example, from 70% to 99% of physicians correctly classified the following persons as being at "high risk" for contracting AIDS: persons with hemophilia, intravenous drug users, homosexual men practicing receptive or insertive anal sex, homosexual men with multiple sexual partners, and female sexual partners of active bisexuals or intravenous drug users; more than 98% classified these persons in either the high- or moderate-risk categories.

Overall, approximately half of respondents indicated interest in each of five types of informational offerings: information packets (64%), informational meetings (53%), training sessions (40%), sexual history-taking information (48%), and CME courses (58%). Physicians with prior HIV-disease experience showed slightly higher levels of interest in obtaining additional AIDS information. Sources of current AIDS information were national medical journals, 355 (94%); Minnesota newspapers, 318 (85%); MDH Disease Control Newsletter, 294 (78%); general media, 284 (76%); and physician colleagues, 278 (74%). Three hundred forty-nine (93%) indicated that they would consult physician colleagues regarding the care of their AIDS patients, and 245 (65%)

**TABLE 3**
Number of physicians who routinely assess risk factors for acquiring human immunodeficiency virus (HIV) infection by number of HIV patients seen

| | Randomly Sampled Physicians | | | | | | |
|---|---|---|---|---|---|---|---|
| | Number of HIV-infected Patients Seen: | | | | | | AIDS-Reporting Physicians |
| Risk Factor | 0 (N = 244) % | 1 (N = 53) % | 2 (N = 33) % | 3-9 (N = 29) % | 10+ (N = 17) % | p-value* | (N = 43) % |
| Homosexuality/bisexuality | 17 | 21 | 33 | 59 | 77 | <0.0001 | 67 |
| Intravenous drug abuse | 23 | 25 | 30 | 62 | 82 | <0.0001 | 61 |
| Blood/blood component transfusion | 21 | 19 | 39 | 48 | 65 | <0.001 | 61 |
| Hemophilia | 20 | 21 | 36 | 48 | 41 | 0.0001 | 42 |
| Multiple heterosexual partners | 10 | 9 | 27 | 31 | 24 | 0.0004 | 35 |
| High-Risk heterosexual partners | 12 | 11 | 15 | 28 | 24 | 0.02 | 37 |
| Family planning for high-risk women | 14 | 15 | 15 | 28 | 29 | 0.04 | 37 |

*Chi-square test for trend for numbers of HIV-infected patients seen by randomly sampled physicians.

**TABLE 4**
Percent of physicians who currently discuss or would discuss health education/risk reduction topics with human immunodeficiency virus (HIV)-infected patients

| | Randomly Sampled Physicians | | | | | | |
|---|---|---|---|---|---|---|---|
| | Number of HIV-infected Patients Seen: | | | | | | AIDS-Reporting Physicians |
| Topic | 0 (N = 244) % | 1 (N = 53) % | 2 (N = 33) % | 3-9 (N = 29) % | 10+ (N = 17) % | p-value* | (N = 43) % |
| Know about HIV-antibody test | 44 | 62 | 70 | 83 | 88 | <0.0001 | 91 |
| Use condoms | 47 | 62 | 67 | 86 | 88 | <0.0001 | 91 |
| Decrease number of sex partners | 44 | 60 | 60 | 69 | 77 | 0.0004 | 86 |
| Avoid exchange of body fluids | 41 | 57 | 67 | 66 | 82 | <0.0001 | 86 |
| Avoid IV needle-sharing | 41 | 60 | 67 | 79 | 77 | <0.0001 | 84 |
| Clean IV needles | 15 | 25 | 30 | 24 | 24 | 0.0407 | 21 |
| Obtain new IV needles | 21 | 28 | 46 | 35 | 47 | 0.0007 | 47 |
| Refer sex/drug partners for counseling | 37 | 49 | 55 | 72 | 77 | <0.0001 | 77 |

*Chi-square test for trend for numbers of HIV-infected patients seen by randomly sampled physicians.

were amenable to a multidisciplinary team approach to patient care.

**Attitudes about disease reporting and contact notification:** Among randomly sampled physicians, 350 (93%) supported disease reporting of AIDS cases, 327 (87%) supported reporting of patients with AIDS-related complex, and 265 (71%) supported reporting of HIV-antibody-positive patients. Contact notification of sexual and/or needle-sharing partners of HIV-antibody-positive patients was favored by 305 (81%) for patient-initiated notification and by 285 (76%) for state health department-initiated notification.

**Attitudes toward homosexual patients:** When asked about comfort level for providing care to homosexual patients, 10 (3%) indicated that they experience a great deal of discomfort working with homosexual patients and 89 (24%) reported moderate discomfort. One hundred two (27%) agreed with the statement that "homosexual behavior is not acceptable for our society." One hundred thirty (35%) disagreed with the statement that "homosexuality is merely a different kind of lifestyle that should not be condemned." Forty-eight (13%) agreed that "to some extent, people who contract AIDS through sexual behavior or IV drug use deserve their disease." Physicians with no previous experience with HIV diseases consistently displayed more negatively biased attitudes toward homosexuals than physicians who had treated HIV-infected patients on six Likert-scaled items (Table 5).

**Continuous variables:** Pearson correlations were performed on a series of continuous variables developed from multiple-item questions (Table 6).

## Reporting Physicians

For the 73 physicians who had reported at least one AIDS case to the MDH, 43 (60%) responded to the survey (Note). AIDS-reporting

**TABLE 5**
Physician attitudes toward homosexuality

| | Randomly Sampled Physicians | | |
|---|---|---|---|
| | No HIV Disease Experience (N = 244) % | HIV-Disease Experience (N = 132) % | AIDS-Reporting Physicians (N = 43) % |
| **Percent of physicians AGREEING with the statements:** | | | |
| Homosexual behavior is not acceptable for our society. | 27 | 26 | 5 |
| People who contract AIDS through sexual behavior deserve their disease. | 14 | 10 | 0 |
| Homosexuality is a threat to many of our basic social institutions. | 22 | 26 | 7 |
| If a person has homosexual feelings, he should do everything he can to overcome them. | 24 | 21 | 9 |
| **Percent of physicians DISAGREEING with the statements:** | | | |
| Homosexuality should not be a cause of job discrimination. | 29 | 24 | 11 |
| Homosexuality is merely a different kind of lifestyle. | 36 | 33 | 19 |

physicians were different from the randomly sampled physicians by subspecialty (65% internists), type of practice (42% in HMO and academic practices), urban residence (95% urban), and sexual preference (19% homosexual or bisexual) (Tables 1 and 2).

Forty-one (95%) of reporting physicians had ordered HIV-antibody tests. Thirty (70%) routinely assessed HIV risks (OR = 58; 95% C.I. = 13.4, 141.3; $p < 0.001$, as compared with the randomly sampled physicians [Table 3]). Forty-one (95%) indicated that they directly provide AIDS counseling and discussion of HIV risks. Eighteen percent of AIDS-reporting physicians indicated that a staff nurse provided patient education on AIDS, compared with 7% of randomly sampled physicians. AIDS-reporting physicians consistently assess risk factors (Table 3) and provide patient education to high-risk patients (Table 4). AIDS-reporting physicians indicated greater comfort with homosexual patients ($p < 0.001$) and a relative absence of homosexual bias as compared with the randomly sampled physicians (Table 5).

## Discussion

Results of this survey demonstrate several important findings. First, HIV infection is a relatively common condition seen by primary care practitioners in Minnesota, and most physicians have ordered at least one HIV-antibody test. Second, at this time, approximately one-fourth of Minnesota physicians routinely assess patient risk for acquiring HIV infection. Third, assessment of HIV-transmission risks and risk-reduction counseling varied with geographic location, type of practice, and previous experience. Fourth, approximately one-fourth of physicians surveyed expressed some discomfort in caring for homosexual patients.

At this time, physicians most likely to have treated HIV-infected patients are internal medicine physicians practicing in large urban centers, with a large representation of physicians in academic medicine. This finding is consistent with the current geographic concentration of Minnesota AIDS cases in the Twin Cities metropolitan area (280/323 cases [87%] as of March 14, 1988). This finding is also consistent with the fact that a limited number of physicians, particularly those with specialization in infectious diseases, have established an expertise in the treatment of AIDS and HIV diseases. However, as AIDS case numbers increase from 300 to more than 1,200 statewide over the next three years,[1] and increasing numbers of HIV-infected patients seek medical consultation, this population of specialists will no longer be able to provide the patient care needed. An increasing proportion of patients with HIV diseases will be diagnosed and treated by internal medicine and family practice physicians in private practice throughout the state.

Among Minnesota primary care physicians, 70% have ordered at least one HIV-antibody test. In addition, although less than 3% (73/2,700) of primary care physicians had reported a case of AIDS to the MDH through March 1987, 35% have cared for at least one HIV-infected patient, indicating that HIV infection is becoming an increasingly common problem in primary care medical practice. AIDS awareness has been facilitated by media coverage, and many people have been alerted to their possible risk for acquiring HIV infection; many of these are seeking medical consultation and HIV-antibody testing. Also, screening is becoming increasingly widespread (i.e., for foreign travel or military service). Analysis of data from Minnesota counseling and testing sites (CTSs) indicates that a widening spectrum of the Minnesota population acknowledges susceptibility to HIV infection; a significant decrease in monthly seroprevalence rates has been largely explained by steadily increasing proportions of female and heterosexual male clients (client populations with seroprevalence rates below 1%)[8] attending CTSs. These findings, and the fact that 70% of Minnesota HIV-antibody tests are performed on blood specimens drawn at physicians' offices and non-CTS clinics,[9] suggest that physicians may experience an influx of patients seeking AIDS information and HIV-antibody testing. Therefore, primary care physicians need to be able to provide accurate risk-reduction information and need to be aware of the clinical ramifications of HIV infection so that they can provide appropriate patient care. The Centers for Disease Control has clearly identified the public health objectives of test-linked

**TABLE 6**
Relationship between physician knowledge, attitudes, and clinical practices and the provision of care for human immunodeficiency virus (HIV)-infected patients

| | Assessment of patient risk status | Provision of AIDS risk-reduction information | Knowledge about HIV transmission | Receptivity to learning more about AIDS | Bias against homosexuality | Age |
|---|---|---|---|---|---|---|
| No. of HIV-infected patients seen | 0.18*<br>(p=0.001) | 0.13*<br>(p=0.006) | 0.01<br>(p=0.41) | −0.04<br>(p=0.20) | −0.12*<br>(p=0.01) | −0/.06<br>(p=0.12) |
| Assessment of patient risk status | | 0.29*<br>(p=0.001) | 0.10*<br>(p=0.021) | 0.11*<br>(p=0.01) | −0.18*<br>(p=0.001) | 0.01<br>(p=0.45) |
| Provision of AIDS risk reduction information | | | 0.03<br>(p=0.27) | 0.22*<br>(p=0.001) | −0.19*<br>(p=0.001) | −0.04<br>(p=0.23) |
| Knowledge about HIV transmission | | | | 0.15*<br>(p=0.002) | −0.01<br>(p=0.40) | −0.05<br>(p=0.17) |
| Receptivity to learning more about AIDS | | | | | −0.19*<br>(p=0.001) | −0.11*<br>(p=0.02) |
| Bias against homosexuality | | | | | | 0.12*<br>(p=0.01) |

Note: All correlations marked with (*) were significantly correlated at $p \leq 0.05$. Values preceded by (−) were inversely correlated.

counseling as behavioral risk reduction for seronegative patients and prevention of serial transmission for seropositive patients;[4] physicians will play a key role in accomplishing these objectives.

At the time of this survey, 26% of physicians surveyed routinely assessed health-risk behaviors for HIV infection. Because physicians represent a key point of access to high-risk persons, these results suggest that additional physician education is needed so that more physicians routinely perform risk assessment. Previous surveys have indicated the need for physician education and clinically based training regarding HIV diseases.[10-15] These studies document disparities among physicians in knowledge about HIV diseases and transmission, direct clinical experience with AIDS patients, regularity and completeness of risk assessment, diagnostic and treatment competencies, perception of personal risk, and comfort with homosexual patients. Survey results reported here indicate that experience treating HIV-infected patients is strongly associated with routine assessment of HIV-transmission risks and provision of risk-reduction education (Tables 3 and 4).

The importance of the physician role in this epidemic and the need for specific physician training have also been formally set forth by physician professional organizations. The American Medical Association (AMA) has developed an informational program to support three levels of physician AIDS education: direct education of physicians about AIDS, training of physicians to assume the role of community educator, and AMA-conducted education and interaction with community leaders.[16,17] The AMA Board of Trustees has endorsed physician education. It recommended a national conference to discuss physician counseling and intervention skills training, and it promoted physician-conducted HIV testing, test-linked risk-reduction counseling, and extended counseling with assisted contact notification for HIV-antibody-positive patients.[18] Recommendations from the American College of Physicians and the Infectious Diseases Society of America encourage physicians to incorporate into their practices procedures for taking complete sexual histories and providing candid risk-reduction education for persons at risk for acquiring HIV infection.[19] Recommendations for primary care physicians issued by the U.S. Preventive Services Task Force for prevention of sexually transmitted diseases include risk-reduction guidelines for HIV diseases specific to the HIV-antibody status of the patient.[20]

The predominant risk behavior in Minnesota has been homosexual contact with an infected partner. In this survey, approximately one-fourth of physicians indicated discomfort in caring for homosexual patients. Previous surveys have documented the wide range of attitudes held by physicians regarding homosexuality.[10-12,21] An AIDS diagnosis alone may provoke stigmatization on the part of physicians;[22] when compounded with homosexual bias, these negative attributions may affect the quality of patient care.[21,23] Furthermore, the finding of HIV seropositivity is associated with a high degree of psychosocial stress;[24] it may be hypothesized that physician attitudes and behavior may serve either to moderate or intensify these stressors.

As the AIDS epidemic progresses and diffuses geographically, additional physician education will be needed. Survey results suggest that these education programs should focus on encouraging physicians to: 1) seek updated information about HIV diseases, 2) assess risks for acquiring HIV infection as part of routine primary care, 3) provide AIDS prevention education for at-risk patients, 4) provide HIV-antibody testing with test-linked counseling for at-risk patients, 5) identify community-based resources to address the psychosocial needs of patients with HIV-related diseases, and 6) confront negative attitudes and discomfort with homosexual patients. In addition, methods for developing a multidisciplinary approach to the care of HIV-infected patients may help physicians to better manage the anticipated caseload. Survey results will be used to assist in the development of statewide physician education within the context of health education models. This targeted education effort should promote a more timely, compassionate, and coordinated physician response to the AIDS epidemic in Minnesota.

**Note:** The 73 AIDS-reporting physicians represented an exhaustive list of all physicians who had reported an AIDS case to the MDH as of March 1, 1987. It was expected that several of these physicians would also be selected when the random sample of 614 physicians was drawn. Nine AIDS-reporting physicians were selected during the sampling process; three responded to both surveys (identical survey, different colors), five responded to the random sample survey only, and one responded to neither survey. Therefore, among the 132 randomly sampled physicians who reported HIV disease experience, eight had reported an AIDS case to the MDH and the remainder are regarded as having treated HIV-infected patients without AIDS.

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# Human Immunodeficiency Virus Infections in Children

## Perspectives for Minnesota

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The acquired immunodeficiency syndrome (AIDS), which is the clinical late stage of infection with the human immunodeficiency virus type 1 (HIV-1), is currently rare in Minnesota's children. Only two cases of AIDS in children less than 13 years of age were diagnosed in Minnesota and reported to the State Board of Health as of November 1987. However, this low number should not make Minnesota health providers complacent about their current rather enviable situation. Experience in other states shows that we can expect an increasing annual incidence. Because there are currently at least 20 known HIV-1-antibody-positive children under 18 years of age in Minnesota,[1] pediatric AIDS cases will be seen with increasing frequency in the near future. This article examines the current situations that may put a child at increased risk of HIV-1 infection, a rational approach to the diagnosis of infection and of AIDS in children, and current reporting requirements. Suggestions are also presented for policies to meet the needs of infected children and to limit the spread to uninfected individuals.

### Risk Profile of Children With AIDS

In the U.S. and Minnesota, the high-risk categories for children are quite different from those of adults, although obviously related (Table). Currently, most mothers of infants with AIDS became HIV-1 infected through IV drug abuse or heterosexual activity with HIV-1-infected male IV drug abusers. New York, New Jersey, Florida, and California reported 75% of all U.S. AIDS cases in children.[2] These states also have the highest prevalence of IV drug use. About 20% of mothers of infants with AIDS acquired the HIV-1 virus through bisexual and heterosexual activity, with subsequent transmission transplacentally to the fetus or by blood, vaginal secretions, or breast milk to the newborn.[3] However, any exposure to blood or semen on mucosal surfaces or on broken skin will provide a mechanism for spread of HIV-1. The efficiency of the transmission will vary depending upon how many different sources of blood or semen an individual is exposed to and the amount of blood or semen transmitted across the skin or mucosal surfaces.

Because of the low prevalence of female IV drug abuse in Minnesota, children currently most at risk are those who have had multiple transfusions and those who have received cryopreserved clotting factors between 1978 and late spring 1985.

### Clinical Features of AIDS in Children

Important differences exist in the clinical presentation of AIDS in children as compared with that in adults.[4]

In infants, the characteristic picture of HIV-1 that has progressed to AIDS is early onset of recurrent severe infections. Septicemia, pneumonia, meningitis, bone or joint infections, and internal abscesses caused by *Haemophilus, Steptococcus*, and other pyogenic organisms are frequent. Opportunistic infections are important signs. Common examples of these are *Pneumocystis carinii*, Cytomegalovirus or Herpes virus recovered from a lungs of a child with tachypnea, retractions, and fever. Also, *Candida* from a child with thrush with esophageal involvement unresponsive to therapy is characteristic. Recurrent *Salmonella* (non typhoid) septicemia, cryptosporidiosis or isosporiasis with diarrhea lasting more than one month or extrapulmonary cryptococcosis, disseminated histoplasmosis, or disseminated coccidiomycosis are suggestive in children as well as adults. Infections with *Mycobacterium tuberculosis* and atypical mycobacteria disseminate early in AIDS patients.

Others signs of progressing HIV-1 infection in infants and children are failure to thrive, unexplained lymphadenopathy and hepatosplenomegaly, and a loss of developmental milestones or progressive symmetric motor deficits. The most frequent pulmonary involvement in infants and young children is chronic reticulonodular interstitial lung disease with cough, digital clubbing, salivary gland involvement, and generalized lymphadenopathy.[5] Biopsy of such lungs has shown a lymphoid interstitial pneumonitis. It may be associated with Epstein Barr Virus infection. The infiltrates on radiograph fail to resolve after antibiotics and persist for more than two months. Kaposi's sarcoma and primary lymphoma of the brain are highly suggestive of HIV-1 infection with progression to AIDS in anyone less than 60 years old. Non-Hodgkins lymphoma of the small noncleaved lymphoma or immunoblastic sarcoma types are suggestive of HIV-1 infection that has progressed to AIDS.

**TABLE**
Mode of HIV-1 transmission to children

| | U.S.* | Minnesota** |
|---|---|---|
| Perinatal (no transfusion history) | 79% | 10% |
| Transfusions (including those with coagulation defects) | 15 | 60 |
| Homosexual/bisexual | | 5 |
| Undetermined | 3 | 25 |

*Based on 345 AIDS cases in children less than 13 years old reported to the CDC through September 1986.[2]
**From Minnesota Department of Health, based on 20 HIV-1-antibody-positive individuals less than 18 years old, through November 1987.[1]

A maternal history of intravenous drug abuse, sexual contact with a known HIV-1-infected male, or blood dyscrasia or surgery requiring blood or cryoprecipitated blood products increases the likelihood that an infant or child is HIV-1 infected. Between 25% and 40% of HIV-1-antibody-positive mothers appear to transmit the infection to their newborns.[6]

In Minnesota, the child who has a blood dyscrasia or has received clotting factors or blood transfusions for any reason prior to the time of blood screening (1978 to late spring 1985) is at increased risk of HIV-1 infection. This mode of spread accounts for 60% of current HIV-1-antibody-positive children in this state.[1] Eyster reported on 84 hemophiliacs who were HIV-1 antibody positive and followed them for up to nine years. A highly significant determinant of when these patients developed AIDS was their T4 lymphocyte count. When less than 200 T4 lymphocytes/ml were circulating, these individuals had a 25% chance of developing AIDS within one year and a 50% chance of developing it in two years.[7]

The diagnosis of HIV-1 infection can be made by serologic testing if the child is older than 15 months. Under 15 months, constant or rising anti-HIV-1 titers in specimens separated by three or more months are confirmatory. At any age, a culture of peripheral blood lymphocytes that yields HIV-1-specific antigen is definitive. This culture is available at the University of Minnesota AIDS Clinical Trials Unit. Several infants with AIDS have been so immunologically compromised that they failed to mount a detectable anti-HIV-1-antibody response.[8] Therefore, testing for HIV-1 antibody and culture of peripheral blood lymphocytes are both indicated in immunocompromised children and infants. Moreover, in the face of an epidemiologic risk factor for HIV-1 infection, a single negative serology and culture may be a false negative, and should be repeated. In the absence of risk factors, negative serology and culture in such a patient suggests a primary immunodeficiency disease or infection with another T-lymphotrophic retrovirus such as HIV-2 or HTLV-1. At this time HIV-2 is not prevalent in the U.S., and HTLV-1 is very limited and characteristically produces a leukemia.

The importance of diagnosing HIV-1 infection early (especially prior to the drop in the T4 lymphocyte count) is increasing as antiviral trials begin. The University of Minnesota is a part of the AIDS Cooperative Group of the National Institute of Health and has been designated as an AIDS Clinical Trials Unit to conduct such trials (see related article, page 289). One trial currently underway enrolls HIV-1-infected adult patients who do not have signs of AIDS (Protocol 019). Two-thirds of these patients will receive the antiviral drug zidovudine (ZVD) with the hope that earlier therapy will minimize side effects and delay or prevent the onset of T4 lymphopenia and AIDS. Thus, it is important for physicians to confirm the clinical diagnosis by serology and/or culture and to be knowledgeable about experimental therapies that will become available for children.

Importantly, diagnosis of HIV-1 infection in an infant indicates a high likelihood of transmission from an infected mother, who probably became infected from an infected male and may have infected other of her children. Therefore, parents and other family members at risk should be offered testing, and any family member tested positive may then enroll in counseling programs and therapeutic trials.

## Reporting Requirements for Minnesota Health Care Workers

A new unit, the Retrovirus Disease Investigation Unit (RDIU) within the Acute Diseases Epidemiology Section of the Minnesota Department of Health is responsible for determining risk factors for acquiring HIV-1 and other retroviruses and for providing risk-reduction education and counseling. Physicians, medical facilities, and laboratories must, under state law (M.S. 4605.7030), report HIV-1 seropositive individuals to this unit. The confidentiality of these records is established by law (see related article, page 307). Indeed, these records are probably better protected than physician and hospital records. This is very appropriate, because without an effective vaccine and without safe and effective antiviral drugs, control of spread depends solely on our ability to identify infected individuals and enroll them in counseling programs to minimize behavior that is likely to spread the virus.

Experience shows that punitive but popular efforts to alter behavior (like quarantine, job and insurance denial) simply tend to assure that those who are infected will avoid participating in control measures for as long as possible, which is not difficult when infection precedes disease by five to eight years. Unless those at greatest risk of infection can be encouraged to enroll in effective risk-reduction counseling, little can be done to limit spread of this virus. Active cooperation can be encouraged by assuring those who are HIV-1 infected and who participate in such programs that all their health care costs, including shelter and nutrition, will be paid. A pool of money could be set aside for this purpose from public and private health insurance funds. Such a program would minimize the social and economic impact on our state by accumulating the necessary financial resources now, and by making it economically sound for a person at high risk for HIV-1 infection to enroll and stay in an infection-control program, thereby minimizing both the spread of the virus and the ultimate cost to the state.

## Control of Spread of HIV-1 Infection to Children in Minnesota

Three actions are most responsible for spread of HIV-1 infection to children in Minnesota. First is the sharing of unsterilized needles for parenteral injection of illicit drugs by women of childbearing age. The logical approach to reducing spread of this virus is to reduce IV substance abuse by enrolling IV drug abusers in drug treatment programs and to provide sterile needles. While this last approach has met with some success in Europe, the legal hurdles in this state may not be overcome soon enough to prevent HIV-1 spread. Fortunately, the relatively small number of parenteral drug users in Minnesota makes it feasible to enroll most of them in a program combining oral methadone maintenance with HIV-1 risk-reduction counseling and HIV-1-associated cost coverage. In about 80% of U.S. cases of AIDS in people less than 13 years old, the virus has likely been transmitted perinatally from mothers infected through IV drug abuse.[9] However, in Minnesota, this mode of transmission accounted for 10% of HIV-1-antibody-positive children through November 1987. In the future, the perinatal route of transmission of HIV-1 will increase in frequency in Minnesota as transfusion-associated transmission decreases.

Receipt of a transfusion of HIV-1-infected blood or blood products is the second most likely means by which children acquire HIV-1 infection.[10] Between 1978 and late spring of 1985, blood and blood products could not be screened for the presence of HIV-1 antibodies. Individuals receiving blood in areas of the country with high seropositivity rates have about a .05% risk per blood component received. The risk of infection is greatest in individuals receiving multiple units in a high-prevalence area. Such individuals should be offered testing for HIV-1 antibody. However, because the risk is still very low, especially for patients receiving blood in Minnesota—a low prevalence area—confirmatory testing (Western blot) should always be done on any positive sera before reporting, to minimize the risk of reporting a false positive. Such screening is especially important for preadolescents so that those who are seropositive can receive counseling to limit heterosexual spread and can be entered in drug therapy trials. Hemophiliacs should also be offered screening and should be monitored periodically. Their risk for HIV-1 infection has declined considerably since screening and discarding of blood components with HIV-1 antibody began. Heat inactivation of virus in those rare units infected but lacking antibody has further reduced risk. The current seroprevalence rates for HIV-1 antibody is 33-92% of U.S. patients with hemophilia A and 14-52% with hemophilia B. Through January 1987 about 12% of U.S. children with AIDS acquired their infection by this route.[9] In Minnesota, this has been the most frequent route of transmission to children through November 1987, accounting for 60% of reported HIV-1-antibody-positive cases in children under age 18.[1] This route of transmission will become very infrequent with blood component screening and heat inactivation procedures.

Heterosexual activity is the high-risk behavior now responsible for the greatest increase in HIV transmission to infants. Sexual partners of patients with hemophilia are at higher risk of infection and the National Hemophilia Foundation has developed extensive educational programs for these individuals.[11] About 10% of sexual partners of seropositive men are HIV-1 antibody positive. Forty to fifty percent of military personnel with spouses with end-stage AIDS are HIV-1 antibody positive. In Belgium, 33% of AIDS cases are attributed to heterosexual activity without other risk factors. Department of Defense screening data indicate that the overall U.S. seroprevalence rate for HIV-1 antibodies was 1.5 per 1,000 from October 1985, to September 1987. The rate for New York City was 10.3 per 1,000. Moreover, the rate for women from New York City was 8.3 per 1,000 and for men, 10.3 per 1,000. This indicates that the male:female ratio for anti-HIV-1 antibodies in a high-prevalence area is approaching 1:1, which is clearly indicative of heterosexual transmission.

There are no data in these studies about the risk behavior of the seropositive women. Nonetheless, it is doubtful that IV drug abuse alone can account for such high seropositivity rates among young women. The most likely conclusion is that heterosexual transmission is now occurring at substantial rates in certain areas of the U.S. Screening of high-risk groups alone will not be adequate to monitor, counsel, or quickly apply therapy or vaccine as these become available. Anonymous screening of all cord blood for HIV-1-antibody would be one way to monitor heterosexual spread in Minnesota. In high-prevalence areas, such as New York City, a recent anonymous umbilical cord blood sampling revealed a 3.7% seropositive rate. Most importantly, 77% of these were not detected by active inquiry regarding maternal risk and the offering of subsequent HIV-1 antibody testing.[12] In Minnesota, anonymous cord-blood screening would give information early on spread to women who are sexually active and reproducing, and would reveal where this was occurring. Such data would not be available from current methods of blood-bank screening or Department of Defense applicant screening.

At the very least, physicians caring for pregnant women should routinely ascertain their patients' risk category for HIV-1 infection: Do they or their partners use IV drugs? Are their partners bisexual? Have they or their partners received multiple transfusions or blood components? Do they or their partners have multiple sexual partners? HIV-1-antibody testing subsequently should be offered to members of these high-risk groups. Again, the physician should report those testing positive to the State Board of Health, recommend counseling, and inquire as to available therapeutic protocols.

### Unlikely Routes of HIV-1 Transmission

A 1986 *New York Times* article reported the possibility of spread of HIV-1 by insects.[13] Since then, no evidence of the presence of HIV-1 in insects has been documented. If insects played a role in transmission, children and other adults would be infected at rates equal to those among people in their peak years of sexual activity. This has not occurred. The vast majority of cases in both the U.S and Africa are in the 20- to 49-year-old age group, which is most consistent with a sexually transmitted disease. Insect transmission was hypothesized as being responsible for an unexpectedly high incidence of AIDS in Belle Glade, Florida. Detailed epidemiologic investigation, however, showed that sexual activity and IV drug use accounted for the observed cases.[14] Moreover, other arthropod-borne diseases occurred with equal frequency in the HIV-1-antibody-positive individuals and those not infected with HIV-1. Thus, insects were biting without discrimination, but only human behavior was transmitting HIV-1.

### Risk of HIV-1 Transmission through Close Casual Contact

The medical community in Minnesota increasingly will be asked to advise day care providers, preschools, and schools on the risk an HIV-1 infected child poses to adults and other children in these settings. The current data are uniform and clear: There has been no case of seroconversion due to usual household activities among 491 household contacts with 228 index patients. These activities included hugging, kissing on the cheeks and lips, biting, sharing bathroom, toilet, bedroom, and kitchen facilities. The risk of spread from an infected child to adult caretakers or other children in the day care or school setting is even more remote because contact is less frequent and less intimate than in the home. All seroconversions occurring in these household contacts were due to sexual activity, sharing of needles used for parenteral injection of drugs, or perinatal transmission. These studies put the relative importance of each of these routes into some perspective: 23/24 seroconversions in these household contacts were secondary to IV drug use and sexual activity, one was by perinatal transmission.[9] These data point clearly to the priorities the medical community must emphasize: This virus is spread most efficiently by the direct and repeated contact with infected blood, semen, and probably vaginal secretions on the mucous membranes or across broken skin of the susceptible person. The virus has been isolated from other body fluids such as saliva, breast milk, tears, urine, cerebrospinal fluid, and alveolar fluid, but only blood and semen have been directly shown to transmit the virus. Epidemiologic and circumstantial evidence suggest that vaginal secretions and breast feeding can also transmit the virus. No such evidence exists to implicate any other body fluids. Indeed, the seropositivity rates among hospital workers and dentists does not differ from that of the general population. Moreover, as in the general population, 95% of the HIV-1-seropositive health care workers and dentists were in known high-risk groups.[9]

### Immunization of HIV-1-Infected Children

All toxoid and killed vaccines (DPT, inactivated polio, Haemophilus influenza-type b) are recommended in HIV-1-infected children at the usual ages. It is still controversial whether live virus vaccines (oral polio, mumps, measles, and rubella) are safe.[2] Experience with inadvertent administration seems to indicate they are safe. Currently, asymptomatic children who are known to be HIV-1 antibody positive should receive MMR at the usual age and should receive inactivated polio vaccine because of the slight risk of the live polio vaccine virus to their possibly HIV-1-infected parents. These recommendations may need to be revised if it becomes evident that the T-cell activation associated with immunization is increasing the risk of progression of AIDS in these children. Currently, the benefit of protection appears to outweigh the theoretical risk of more rapid progression of the HIV-1 infection. Symptomatic HIV-1-infected children should receive inactive vaccines only. Also, both groups should receive inactivated influenza immunization annually and the polyvalent pneumococcal polysaccharide vaccine at age 2 or more. No studies are yet available regarding the efficacy of any of these vaccines to protect a patient with HIV-1 infection. The degree of protection achieved probably is reduced the longer the patient has been infected with HIV-1 and the greater the patient's T-lymphocyte depletion, which, in turn, affects the degree and type of immunoglobulin response. Only 40% of children with symptomatic HIV-1 infection have a normal response to immunization.[2] Thus, these children should be given passive immunity following exposure to measles using gamma globulin and following exposure to varicella or zoster using varicella-zoster immune globulin. Follow-up and reporting of adverse events related to vaccination in these children is encouraged.

### Bacterial and Opportunistic Infection

The risk of certain opportunistic infections in HIV-1 may be decreased by infusion of HIV gamma globulin every two to four weeks, and such therapy is under investigation. The use of trimethoprim sulfmethoxazole in long-term prophylaxis in these patients is also under investigation.

### Summary and Conclusions

Human immunodeficiency virus type 1 spreads by mucosal or open-wound contact with infected blood, semen, and vaginal secretions. Male homosexual behavior, sharing of unsterilized needles, and receipt of contaminated blood or blood components currently account for most HIV-1 infection. Spread to females in the U.S. has most frequently occurred by sharing of unsterilized needles, and increasingly by repeated sexual contact with infected males. Slowing spread to women in Minnesota can be accomplished by:

► Health professionals determining the risk category for HIV-1 infection of each of their pregnant patients.

► Offering HIV-1 antibody-testing to those at increased risk.

► Reporting, counseling (including drug abuse control), and offering therapeutic protocols to those testing positive.

► Initiating surveillance of spread to the childbearing female population by anonymous cord-blood testing for HIV-1 antibodies.

Children under 13 are most frequently infected by being born to an infected mother or by receiving multiple blood or blood component infusions. HIV-1 infection more quickly develops into clinical AIDS in children than in adults. Severe and recurrent pyogenic infections; opportunistic infections, especially recurrent thrush, CMV pneumonia, *Pneumocystis* pneumonia, and Herpes simplex esophagitis; chronic lymphocytic interstitial pneumonitis; failure to thrive; progressive encephalopathy; and lymphomas are characteristic clinical presentations of an HIV-1-infected child. Diagnosis is made by detecting HIV-1 antibody, or in those under 15 months, by detecting constant or rising HIV-1 antibody or HIV-1 antigen from cultured lymphocytes.

Slowing the spread to children in Minnesota can be accomplished by:

► Slowing spread to females of reproductive age.

► Monitoring and discarding blood and blood products testing positive for HIV-1 antibody and treating component products to minimize risk of spread from those units infected but not yet having an antibody response.

► Identifying older children at risk for IV drug abuse and encouraging entry into counseling programs to reverse this, and assuring sterile needle use where reversal or methadone maintenance fails.

► Educating and counseling older children about the risks of multiple sexual partners and male homosexual activity, and about the use of condoms. Health professionals who see adolescents should ascertain whether their patients participate in high-risk behaviors, offer HIV-antibody testing, and recommend counseling for those in high-risk groups.

Spread of HIV-1 to uninfected individuals will not be affected by increased mosquito control or removal of HIV-1 infected children from day care, preschool, or school.

A program that makes it economically worthwhile for every HIV-1-antibody-positive individual to voluntarily seek testing, to enter and continue in risk-reduction counseling and in new antiviral therapy programs will do the most to slow the spread of HIV-1. Such a program will also maximize the proportion of the population that can be protected when an effective vaccine becomes available. Minnesota has the capability of controlling this epidemic; we need only the collective resolve to rationally and humanely use current information to succeed.

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# AIDS
## Treatment Strategies and the Minnesota AIDS Clinical Trials Unit

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**Persons infected with the human immunodeficiency virus (HIV) are at risk for developing symptoms of the acquired immunodeficiency syndrome (AIDS). Although opportunistic infections are the major cause of death in AIDS, research is also concentrated on inhibiting HIV replication, in hopes of preventing further damage to the immune system. In Minnesota, the major site for evaluation of new AIDS treatments is the AIDS Clinical Trials Unit at the University of Minnesota, sponsored by the National Institute of Allergy and Infectious Diseases.**

Since 1981, when the acquired immunodeficiency syndrome (AIDS) was first recognized in Los Angeles[1] and New York,[2] AIDS has presented a major challenge to medical researchers and clinicians. The cause of AIDS, a retrovirus now termed the human immunodeficiency virus (HIV), was first identified in 1983 by researchers working in Paris, the National Institutes of Health (Maryland), and San Francisco.[3,4,5] The epidemiology of HIV transmission had been fairly well characterized on clinical evidence alone.

It was not until permissive cell lines were developed that sensitive and specific serologic tests could be produced that further refined the understanding about HIV infection.[6] Enzyme-linked immunosorbent assay (ELISA) tests, the most commonly used antibody screening tests, were first licensed by the Food and Drug Administration in 1985. Although current ELISA tests may have sensitivities and specificities of greater than 99%, a positive result should be confirmed by another test such as a Western blot.[7] More recently, HIV core antigen has been detected during acute and chronic infection and antigenemia correlated with symptomatic disease and T-helper cell depletion.[8,9] These serologic tests have allowed the characterization of the prevalence of HIV infection in various groups such as homosexual/bisexual men, intravenous drug abusers, hemophiliacs, partners of HIV-infected persons, and childbearing women. Such testing has allowed the detection of primary HIV infection and better defined the correlation between immune dysfunction and disease progression. This paper discusses the treatment of opportunistic infections, the underlying virus infection, and the AIDS Clinical Trials Unit at the University of Minnesota.

### Opportunistic Infections

From a medical perspective, the HIV-infected person is assumed to have HIV disease whether or not the patient feels ill. The spectrum of HIV disease is illustrated by the Centers for Disease Control HIV Classification System.[10] It is currently believed that a person who tests positive for HIV antibody is actively infected and potentially infectious to others (via sexual secretions and blood) and carries a growing risk of developing symptoms as time from infection increases. The major cause of death for AIDS patients is not HIV, itself, but rather secondary problems arising as a result of the immunosuppressed state induced by HIV infection.

The broad spectrum of infectious complications seen in AIDS due to bacteria, parasites, fungi, and other viruses have been well described.[11,12] These infections often respond to appropriate therapy, but prolonged courses may be required. The most common life-threatening infection seen in AIDS is *Pneumocystis carinii* pneumonitis (PCP). Treatment with pentamidine, trimethoprim-sulfamethoxazole (TMP-SMX) and, more recently, trimetrexate is often effective.[13] PCP often relapses, so chemoprophylaxis with agents such as TMP-SMX or inhalational pentamidine is being employed with some success.[14] Unfortunately, the management of these infections does not reverse the underlying immune deficiency due to the HIV infection, so patients still usually succumb to other opportunistic infections.

### Antiretroviral Therapy

Therapy targeted at the HIV infection has three major goals. The first is to prevent disease progression by limiting further damage to the immune system. The second goal is restoration of immune function by reversing established disease. The third objective is to prevent further viral transmission to uninfected persons.

To develop antiretroviral therapies, it is important to understand the replication of HIV infection in critical cells (i.e., T-lymphocytes, macrophages) of the immune system. This strategy assumes that continued viral replication is involved in both the pathogenesis and progression of disease in association with the loss of helper (CD4+, T4) T-cells and profound immune suppression. HIV may enter the central nervous system,

**TABLE 1**
Stages of HIV replication where potential antiretroviral agents may act

| Stage | Agent and Effect |
|---|---|
| Binding to the target cell | Antibodies to virus or cell receptor; oligopeptide blockers (peptide T); change viral lipid content |
| Entry into cell and uncoating | Hypothetical drug (such as amantadine for influenza) or antibodies to virus or receptor |
| Transcription of RNA to DNA by reverse transcriptase | Reverse transcriptase inhibitor (zidovudine, DDC, foscarnet, HPA-23) |
| Viral integration into host DNA genome | Hypothetical integrase or polymerase inhibitors |
| Transcription of DNA to RNA | Hypothetical inhibitors specific for retrovirus |
| Translation of RNA | Ribavirin, agents that affect tat-III, antisense constructs (Ampligen) |
| Viral component production, assembly and release | Hypothetical protease and glycosylation inhibitors |
| Viral budding | Interferons |

From: Mitsuya/Broder Nature 325:773-778, 1987, and refs. 16, 17.

possibly within macrophages, early in HIV infection and result in a variety of neuropsychiatric disorders.[15] Successful antiretroviral therapy must contend with that neurotropism of HIV.[16]

A consideration of the life cycle of HIV suggests targets for intervention, particularly the unique retroviral enzyme reverse transcriptase. Optimal therapy may require attack at multiple steps, a strategy which may minimize emergence of resistance and drug toxicity. Table 1 summarizes data about some of the antiretroviral drugs currently being investigated. Several detailed discussions about retroviral therapy have been published,[16,17] so only a few antiretrovirals will be discussed here.

The **dideoxynucleosides**, of which the best studied are zidovudine (3′-azido-3′deoxythymidine, AZT, Retrovir) and DDC (2′,3′-dideoxycytidine), are the most potent inhibitors of HIV replication yet identified. The drugs become phosphorylated by cellular enzymes and as 5′-triphosphates inhibit reverse transcriptase and terminate chain elongation. Zidovudine is the best-studied antiretroviral drug and the only one currently available clinically. Zidovudine has good oral bioavailability and blood/brain barrier penetration and has been shown to be synergistic with a number of agents in vitro, including acyclovir. In a double-blinded, placebo-controlled trial it decreased mortality and the occurrence of opportunistic infections and partially restored immune function in patients with AIDS and ARC.[18] It also has been shown to decrease HIV antigenemia[19] and possibly to improve neurologic disease.[20]

The use of zidovudine is limited by its high cost ($400-$700/month) and toxicity. Serious adverse effects, particularly bone marrow suppression with anemia and neutropenia, have been frequently observed. Other side effects have included nausea, myalgias, insomnia, severe headaches, and seizures.[21] When dosage reductions or discontinuation are necessary due to toxicity, its positive effects are reversed.

A trial of DDC has shown that the drug is also well absorbed and passes the blood/brain barrier. DDC has demonstrated beneficial effects similar to zidovudine but has a different spectrum of side effects, the most severe of which is a painful neuropathy. DDC appears to be better tolerated if used in an alternating regimen with zidovudine.[22] The dideoxynucleosides are not curative since they do not inhibit HIV replication in cultured macrophages in vitro and have no effect on integrated proviral DNA.[23]

**AL-721** is an acronym for "active lipids in a ratio of 7:2:1." Also called "egg lecithin," it is postulated to block infection by altering viral envelope cholesterol and subsequent binding to the cell.[24] Although it is frequently used "on the street," published data on its efficacy are sparse.

**Dextran sulfate** has been reported to have in vitro anti-HIV activity and to act synergistically with zidovudine. Although the mechanism of action is not known, a Phase I clinical trial has been undertaken.

**Ampligen (poly I-poly C)**, a mismatched double-stranded RNA molecule has been found in one limited study to restore immunologic function and to control HIV replication. Other studies have shown in vitro antiretroviral activity and synergy with zidovudine.[25]

**Peptide T** is an octapeptide sequence contained in the envelope glycoprotein (gp120) of HIV. It inhibits HIV in vitro and blocks viral envelope binding to the CD4 cell receptor. In a limited compassionate use trial, it appears to have some beneficial effects.[26]

**Phosphonoformate** (foscarnet), a reverse transcriptase inhibitor, has been shown to have antiretroviral activity and to act synergistically with zidovudine in vitro.[27] It is currently undergoing clinical trials.

## The University of Minnesota AIDS Clinical Trials Unit

Published reports of the current status and future projections of the AIDS epidemic clearly indicate that the financial, social, and human costs will be enormous. Given the scope of the HIV problem, it is imperative that well-organized research and clinical trials proceed at institutions capable of performing detailed studies.

To accomplish a coordinated AIDS clinical treatment program, the National Institute of Allergy and Infectious Diseases (NIAID) established its AIDS program in 1986. The NIAID AIDS Program consists of five branches. The treatment branch supports research on the clinical development and evaluation of therapies for HIV and opportunistic infections. Much of that research is done at the 35 AIDS Clinical Trial Unit (ACTU) sites. The first funding contracts for ACTUs were awarded to 14 medical centers in June 1986 and were followed by awards to five additional sites (including the University of Minnesota) in January 1987. The 19 sites, formerly called AIDS Treatment and Evaluation Units (ATEUs), involved 38 medical centers in 11 states. In further response to the need for expanded clinical trials, NIAID recently named 17 additional sites as AIDS Clinical Studies Groups (AIDS-CSG), whose trials are coordinated with those of a the ATEU sites (see Table 2 for a listing of participating medical centers). Depending on the group, the ACTUs may also study drug pharmacology and pharmacokinetics; investigate HIV epidemiology, immunology, and pathogenesis; or conduct basic virologic research. Associated outreach programs can be directed toward prevention and education.

Through the use of a computerized data-base system, the ACTUs are able to conduct coordinated multicenter collaborative trials of experimental drugs in persons infected with HIV. The system allows close monitoring and rapid analysis of pooled data. Through placebo-controlled, double-blinded studies, proof of efficacy can be demonstrated quickly and ethically with smaller numbers of patients. By March 1988, 27 protocols were active and over 70 protocols have been proposed. Over 3,200 patients have been enrolled in these studies to date. Although not all institutions participate in every trial, all protocols and procedures are standardized between institutions.[28]

**TABLE 2**
NIAID AIDS Clinical Trial Unit Sites

| ATEU Sites | Clinical Study Groups |
|---|---|
| U of California, San Francisco, CA | U of Texas, San Antonio, TX |
| Stanford University, Palo Alto, CA | U of Massachusetts, Worcester, MA |
| U of California, Los Angeles, CA | New Jersey Medical School, Newark, NJ |
| U of California, San Diego, CA | Hershey Medical Center, Hershey, PA |
| U of Miami, Miami, FL | Ohio State University, Columbus, OH |
| Tulane University, New Orleans, LA | U of Cincinnati, Cincinnati, OH |
| Johns Hopkins Hospital, Baltimore, MD | Robert Wood Johnson Medical School New Brunswick, NJ |
| Mass General Hospital, Boston, MA | St. Luke's Hospital, New York, NY |
| U of Minnesota, Minneapolis/St. Paul, MN | Indiana University, Indianapolis, IN |
| U of Rochester, Rochester, NY | Case Western Reserve, Cleveland, OH |
| Albert Einstein, Bronx, NY | U of North Carolina, Chapel Hill, NC |
| Memorial Sloan-Kettering, New York, NY | Children's Hospital, Boston, MA |
| Bellevue Hospital/NYU, New York, NY | Cornell University, New York, NY |
| Mt. Sinai, New York, NY | Northwestern University, Chicago, IL |
| Duke University, Durham, NC | Washington University, St. Louis, MO |
| U of Pittsburgh, Pittsburgh, PA | George Washington University, Washington, DC |
| Institute for Immunology, Houston, TX | State University of New York, Stony Brook, NY |
| U of Washington, Seattle, WA | |

**TABLE 3**
University of Minnesota AIDS Clinical Trials Unit Research Protocols

Trials Now Closed
- 001. Zidovudine for persons with AIDS-associated Kaposi's sarcoma
- 002. Zidovudine for HIV-infected persons after the first episode of *Pneumocystis* pneumonia
- 020. Open label study for zidovudine in AIDS patients

**Trials Recruiting Participants**
- 016. Zidovudine for persons with early AIDS-related complex (ARC)
- 019. Zidovudine for asymptomatic HIV-infected persons
- 022. AL-721 for persons with early ARC
- 028. Foscarnet for persons with early ARC

**FOR INFORMATION ABOUT U OF MINNESOTA AIDS PROTOCOLS:**
call 612/625-1462 or write:
AIDS CLINICAL TRIALS UNIT
Box 437
University of Minnesota Health Sciences Center
Minneapolis, MN 55455

The University of Minnesota was named as an ATEU on January 2, 1987. On January 23, 1987, the Minnesota center received authorization from the University of Minnesota Committee on the Use of Human Subjects in Research to participate in its first protocols, with the first patient enrollment on February 6, 1987. Under the direction of Dr. Henry H. Balfour, Jr., the Minnesota ATEU has participated in seven protocols (see Table 3). Three of the protocols (001, 002, and 020) are now closed to further enrollment. Four active studies involve the use of zidovudine for the treatment of asymptomatic HIV infection (019), zidovudine for persons with early AIDS-related complex (016), AL-721 for persons with early ARC (022), and foscarnet for patients with ARC (028). Other protocols are being developed or are waiting approval.

The Minnesota ATEU has already distinguished itself because of the excellence of its HIV laboratory and pharmacokinetic capabilities. The Minnesota ATEU has enrolled 180 patients through March 1988, which ranks it eighth nationally in numbers of patients enrolled among the 35 active sites. That standing is especially noteworthy when one considers the relatively low incidence of HIV infection and AIDS in Minnesota compared with most ACTU sites and is attributable to the outstanding involvement of physicians throughout Minnesota in referring their patients for ACTU trials. The

Minnesota ACTU encourages patient referral and recognizes the importance of the primary physician for the success of the program (see Table 3 for referral information).

## Conclusion

AIDS is currently an incurable disease, a feature that places both the patient and the physician under considerable stress. Many patients may turn to nontraditional forms of treatment to find an effective therapy (see related article, page 297). Physicians should help their patients avoid worthless or harmful therapies and provide access to treatments of proven or probable clinical value.

Compassion for the patient should be the hallmark of care of the AIDS patient. The patient often feels the double stigma of the AIDS diagnosis and the public perception of belonging to a high-risk group (i.e., gay/bisexual men or intravenous drug abusers). The physician needs to be sensitive to those concerns and feel comfortable dealing with issues pertaining to homosexuality.

Physicians throughout Minnesota have responded positively to the challenges posed by AIDS. Already in the Twin Cities there are eight clinics set up specifically to treat AIDS patients, and over a dozen other clinicians statewide have practices with an interest in HIV infections. Because there are only approximately 170 living AIDS patients in the state at present, access to care has been good. By 1991, however, the AIDS caseload will expand to possibly 500 living AIDS patients, thus burdening the existing network of providers.

With an estimated 10,000 or more HIV-infected persons in Minnesota, more and more of the state's physicians will encounter issues concerning treatment of HIV. Probably no area in medicine is seeing more rapid development of new therapies. Information about AIDS treatments can be obtained from the American Federation for AIDS Research (212/995-5846), the University of Minnesota (612/625-1462), the Minnesota AIDS Project (612/870-7773), or from a number of experienced clinicians throughout Minnesota. Involvement of patients in well-designed clinical trials will speed the process of identifying truly effective therapies, so the continued support of community physicians in the Minnesota ACTU is critical. As more physicians become involved in the care of HIV patients, the more apparent will be the professional satisfaction gained from meeting the challenge AIDS poses to the patient, physician, and society.

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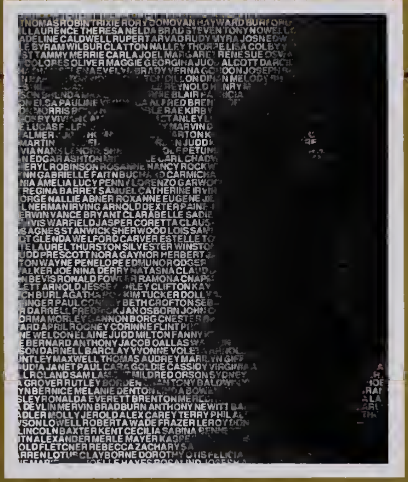

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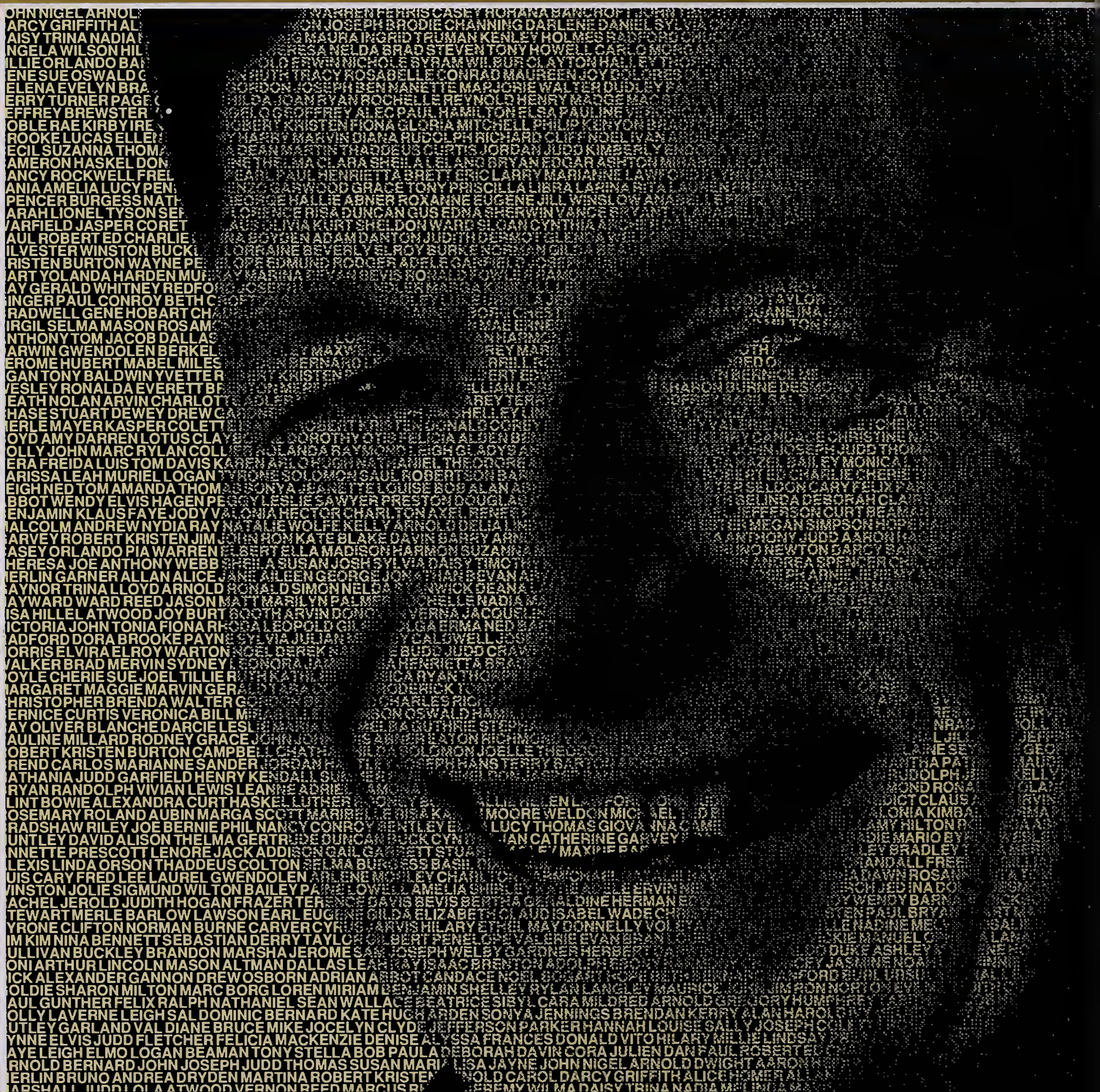

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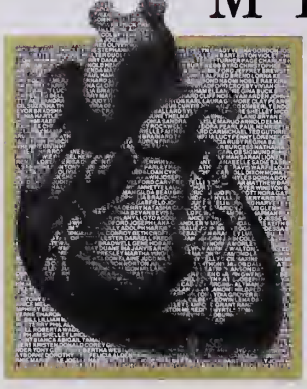

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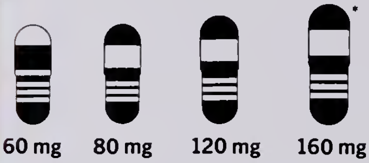

BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR.)*

**INDERAL® LA** brand of propranolol hydrochloride **(Long Acting Capsules)**

**DESCRIPTION.** INDERAL LA is formulated to provide a sustained release of propranolol hydrochloride. INDERAL LA is available as 60 mg, 80 mg, 120 mg, and 160 mg capsules.

**CLINICAL PHARMACOLOGY.** INDERAL is a nonselective, beta-adrenergic receptor-blocking agent possessing no other autonomic nervous system activity. It specifically competes with beta-adrenergic receptor-stimulating agents for available receptor sites. When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta-adrenergic stimulation are decreased proportionately.

INDERAL LA Capsules (60, 80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL Tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg-for-mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure, and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

**INDICATIONS AND USAGE. Hypertension:** INDERAL LA is indicated in the management of hypertension; it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

**Angina Pectoris Due to Coronary Atherosclerosis:** INDERAL LA is indicated for the long-term management of patients with angina pectoris.

**Migraine:** INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

**Hypertrophic Subaortic Stenosis:** INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

**CONTRAINDICATIONS.** INDERAL is contraindicated in 1) cardiogenic shock; 2) sinus bradycardia and greater than first-degree block; 3) bronchial asthma; 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

**WARNINGS.** CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

> IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following ab*rupt* discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned, the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

**Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema)**—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, eg, dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA: Beta blockers should be used with caution in diabetic patients if a beta-blocking agent is required. Beta blockers may mask tachycardia occurring with hypoglycemia, but other manifestations such as dizziness and sweating may not be significantly affected. Following insulin-induced hypoglycemia, propranolol may cause a delay in the recovery of blood glucose to normal levels.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol may change thyroid function tests, increasing $T_4$ and reverse $T_3$, and decreasing $T_3$.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case this resulted after an initial dose of 5 mg propranolol.

**PRECAUTIONS.** GENERAL: Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

CLINICAL LABORATORY TESTS: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL (propranolol HCl) is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Caution should be exercised when patients receiving a beta blocker are administered a calcium-channel-blocking drug, especially intravenous verapamil, for both agents may depress myocardial contractility or atrioventricular conduction. On rare occasions, the concomitant intravenous use of a beta blocker and verapamil has resulted in serious adverse reactions, especially in patients with severe cardiomyopathy, congestive heart failure, or recent myocardial infarction.

*Aluminum hydroxide gel* greatly reduces intestinal absorption of propranolol.

*Ethanol* slows the rate of absorption of propranolol.

*Phenytoin*, *phenobarbitone*, and *rifampin* accelerate propranolol clearance.

*Chlorpromazine*, when used concomitantly with propranolol, results in increased plasma levels of both drugs.

*Antipyrine* and *lidocaine* have reduced clearance when used concomitantly with propranolol.

*Thyroxine* may result in a lower than expected $T_3$ concentration when used concomitantly with propranolol.

*Cimetidine* decreases the hepatic metabolism of propranolol, delaying elimination and increasing blood levels.

*Theophylline* clearance is reduced when used concomitantly with propranolol.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

PREGNANCY: Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

NURSING MOTHERS: INDERAL is excreted in human milk. Caution should be exercised when INDERAL is administered to a nursing woman.

PEDIATRIC USE: Safety and effectiveness in children have not been established.

**ADVERSE REACTIONS.** Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

*Cardiovascular:* Bradycardia; congestive heart failure; intensification of AV block; hypotension; paresthesia of hands; thrombocytopenic purpura; arterial insufficiency, usually of the Raynaud type.

*Central Nervous System:* Light-headedness; mental depression manifested by insomnia, lassitude, weakness, fatigue; reversible mental depression progressing to catatonia; visual disturbances; hallucinations; vivid dreams; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics. For immediate formulations, fatigue, lethargy, and vivid dreams appear dose related.

*Gastrointestinal:* Nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

*Allergic:* Pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

*Respiratory:* Bronchospasm.

*Hematologic:* Agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

*Auto-Immune:* In extremely rare instances, systemic lupus erythematosus has been reported.

*Miscellaneous:* Alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

**DOSAGE AND ADMINISTRATION.** INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily. If patients are switched from INDERAL Tablets to INDERAL LA Capsules, care should be taken to assure that the desired therapeutic effect is maintained. INDERAL LA should not be considered a simple mg-for-mg substitute for INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitration may be necessary, especially to maintain effectiveness at the end of the 24-hour dosing interval.

HYPERTENSION—*Dosage must be individualized*. The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic. The dosage may be increased to 120 mg once daily or higher until adequate blood pressure control is achieved. The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage of 640 mg may be required. The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks.

ANGINA PECTORIS—*Dosage must be individualized*. Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three- to seven-day intervals until optimal response is obtained. Although individual patients may respond at any dosage level, the average optimal dosage appears to be 160 mg once daily. In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS).

MIGRAINE—*Dosage must be individualized*. The initial oral dose is 80 mg INDERAL LA once daily. The usual effective dose range is 160-240 mg once daily. The dosage may be increased gradually to achieve optimal migraine prophylaxis. If a satisfactory response is not obtained within four to six weeks after reaching the maximal dose, INDERAL LA therapy should be discontinued. It may be advisable to withdraw the drug gradually over a period of several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily.

PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use.

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**Reference:**

1. Data on file, Ayerst Laboratories.

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# Alternative Therapies for AIDS

## A Physician's Guide

*Keith Henry, M.D.*

**Many persons with AIDS (PWAs) are frustrated by both the lack of a cure and the apparent insensitivity of the conventional health care delivery system. Alternative therapies may offer hope and other benefits to PWAs. Unfortunately, there are many people who prey on the fears of AIDS patients by offering useless but profitable treatments. All care givers should encourage PWAs to be knowledgeable about AIDS treatments and to be involved in decisions about their care.**

Physicians frequently are skeptical about treatment approaches to diseases that are outside the mainstream of medicine. For an incurable disease such as the acquired immunodeficiency syndrome (AIDS), it is understandable that desperate patients turn to other therapies. The term "alternative" itself can be confusing since several definitions are commonly used. "Alternative" often is used to denote one of a set of possible courses of action, while many traditionalists use the word in situations in which only two possible courses of action exist (implying mutual exclusion).[1]

In the context of clinical medicine, alternative therapy implies interventions against diseases that are not part of Western medical tradition. Discussion of alternative therapies often includes acupuncture, visualization, yoga, massage, herbal remedies, mega-vitamins, and other nutritional therapies. Alternative and traditional approaches to AIDS treatment need not be mutually exclusive, in fact, they can share two fundamental objectives: 1) compassion for the patient and 2) an interest in improving the patient's clinical status.

### Approaches to Alternative Therapies

The average PWA (person with AIDS) is under severe stress. He or she is confronted with potential death, a debilitating illness, financial strain, and stigmatization. Because the average PWA is relatively young, he or she usually has had little experience with the medical system. To the newly ill, medical practice often seems perplexing and very impersonal. In addition, many physicians are uncomfortable dealing with AIDS patients who are often gay or bisexual men or intravenous drug abusers. The absence of highly effective non-toxic therapy against the human immunodeficiency virus (HIV) and associated pathogens heightens the PWA's lack of confidence in traditional medicine.

In that setting, it is little wonder that patients seek additional therapies.[2,3] These alternative therapies are sometimes helpful, sometimes of no value, and occasionally harmful to the PWA. The principal problem in evaluating alternative therapies is the reliance on anecdotal data for proof of efficacy, i.e., lack of hard data and well-done studies. In patients with complex medical problems, it is difficult to identify what factors resulted in clinical improvement. AIDS has a variable course with many clinical peaks and troughs. Also complicating the picture is the impact of psychologic variables, such as placebo effects, on various therapies.

It is not possible for any individual to keep up with all therapies being developed against AIDS, but several good sources of information are available.[4,5,6,7] In all cases, the PWA should be followed by a primary physician he or she is comfortable with, even if the PWA is seeing an alternative therapist. The primary physician should be open-minded and willing to monitor for adverse effects from alternative therapy. The various care givers should communicate with each other so they are aware of each others' therapeutic activities.

The alternative therapist should be willing to explain the therapy to the PWA in understandable terms. If a therapy is not working or is of no benefit, it should be stopped. The PWA has a right to know whether the therapist has worked with AIDS patients and whether the patient could communicate with other patients receiving the therapy. An alternative therapist who doesn't share data with the patient or who is unwilling to talk with the PWA's physician should be regarded with suspicion. Unfortunately, there are many people who will prey on the fears of AIDS patients by offering useless but profitable treatments. In general, a cardinal rule is "Buyer Beware." All care givers should encourage the PWA to be knowledgeable about AIDS treatments and to be involved in decisions about his or her care. Following is a brief summary of some available alternative therapies.

► **Visualization:** This technique involves intensive mental focusing on the immune system and the HIV. Many patients feel this lessens stress and improves psychologic status.

► **Acupuncture:** Although of benefit in the control of some types of pain, a positive effect of acupuncture on the immune system has not been demonstrated.

► **Massage:** Patients frequently experience mental and physical relief after massage therapy. Clearly, the knowledge that someone is willing to have prolonged physical contact with the PWA is often beneficial and is a concept that should not be lost to standard care givers.

► **Nutritional therapies:** PWAs often experience nutritional problems such as diarrhea, malabsorption, wasting syndromes, malnutrition, and treatment-induced vitamin deficiencies. These problems often present difficulties to conventional care givers and form the rationale for many alternative healing approaches. Several considerations should guide the use of alternative nutritional therapies. First, the therapy should not be harmful and should not adversely react with treatments given by the physician. Second, the therapy should not replace health care that is generally accepted as effective (i.e., *Pneumocystis* prophylaxis in some settings). Third, the nutritional therapy should allow for adequate calorie and protein intake. Finally, it should not be unduly expensive.

► **Vitamin therapy:** Multiple vitamins may be helpful when a PWA is eating poorly, has vomiting or diarrhea, or when medication induces a vitamin deficiency. In general, intake of more than 100 percent of any vitamin is excessive. Daily consumption of a multiple vitamin/mineral supplement often makes sense. Certain megadose vitamin therapies can be harmful, however. Toxic doses of vitamins A (RDA 1000 R.E. or 5000IU) and D (RDA 5 mg or 200IU) can accumulate due to storage in body tissues and slow metabolism. High-dose zinc (>10-15 X the RDA of 15 mg) can impair lymphocyte function and cause diarrhea, vomiting, and abdominal cramps. High-dose vitamin C (RDA 60 mg) has its proponents (i.e., Linus Pauling[8]) but in non-AIDS settings has not been shown to boost the immune system, and in AIDS patients, T-helper cell counts have declined on therapy.

► **Changes in diet or supplements:** Herbal remedy proponents have claimed that herbs can regenerate the immune system,[9] but no data support that allegation. Some herbal remedies have been found to contain impurities, including lead and heavy metals that could be toxic. Quality control of herbal remedies is lacking and is a problem. Garlic specifically has been touted as being an antiviral, antiparasitic compound, but data are lacking. Coenzyme Q, used in Japan to prevent and treat cardiac disease, is sold in health food stores as an immune modulator, but no studies have been performed on its efficacy in AIDS patients. Macrobiotic diets have as their basis the Oriental philosophy that a balanced body requires appropriate portions of acid- and alkaline-forming foods. In practice, these diets often consist of 50-60% whole grains and 25-30% vegetables and other supplements. Macrobiotic diets often are deficient in calories, protein, calcium, iron, and vitamin B12.

► **Other dietary strategies:** Excessive yeast (candida) as a cause of immune suppression has been proposed by Crook[10] and others. Diets avoiding sugar, yeast, many fruit juices, processed meats, coffee, cheese, vitamins and minerals, and antibiotics form the cornerstone of the yeast-control theory, which is viewed as "speculative and unproven" by experts in immunology.[11] A currently popular book on diet and the immune system, *Dr. Berger's Immune Power Diet,*[12] promotes the theory that poor health is often due to hypersensitivity to many foods, and champions a diet high in fruits and vegetables and low in fat, calcium, and calories. Dr. Berger's diet is viewed as restrictive by nutritionists, and his theory is not supported by most reputable immunologists.[13]

► **AL-721:** The AL-721 story is illustrative of the potential commonality of standard and alternative therapies for AIDS. AL-721 stands for "active lipid," consisting of three ingredients in a 7:2:1 ratio, with lecithin as the active ingredient. Studies begun in Israel have demonstrated that AL-721 can decrease the rate at which cells become infected by HIV in vitro.[14] The mechanism of action appears to involve the extraction of cholesterol from cellular membranes. Clinical trials involving AL-721 are underway (including a study of AL-721 in early ARC, sponsored by the NIH and being conducted at the University of Minnesota). AL-721 of uncertain quality can be manufactured at home with ingredients that are readily available.[15] "Guerrilla clinics" and buyer's clubs have sprung up around the country facilitating PWA's access to AL-721.[16] Although it is unclear whether AL-721 is clinically beneficial, side effects are minimal, consisting of decreased appetite, bloating, belching, and diarrhea. The unfolding AL-721 story provides insight into both conventional and alternative medical approaches to drug treatment for AIDS.

## Conclusion

This summary of alternative approaches to AIDS therapy does not represent a recommendation of their use, but the discussion should help physicians realize how little conventional medicine now has to offer these patients and why patients turn to others for help. Physicians should remember that talking to PWAs, touching PWAs, keeping an open mind, educating oneself about therapeutic options in AIDS, and demonstrating a willingness to discuss therapy with other care givers are all part of the physician's duty in caring for persons with AIDS.

A frank relationship between the PWA and physician should maximize health benefits available to the patient while educating the physician about AIDS as a disease and the capacity of patients to live with their illness.

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# Human Immunodeficiency Virus in Minnesota

## 1988 Statewide HIV Risk-Reduction and Disease-Prevention Plan

*Summarized by Kristine L. MacDonald, M.D., and prepared by the Commissioner's Task Force on AIDS*

The AIDS epidemic continues to grow in Minnesota. As of March 14, 1988, 323 cases of AIDS had been reported to the Minnesota Department of Health (MDH); 188 people had died of AIDS or its complications. An effectively implemented risk-reduction and disease-prevention plan that has broad statewide support and involvement is essential to reduce the tragic morbidity and mortality caused by this disease in Minnesota. The Commissioner's Task Force on AIDS approved a statewide human immunodeficiency virus (HIV)-risk-reduction plan in the spring of 1986.[1] The original plan has been updated to incorporate the following objectives for 1988.

### Objectives

The following major objectives for 1988 are outlined in the Table.

**1.** Continue to conduct surveillance of AIDS cases and patients with positive test results for HIV infection (repeatedly reactive EIA with a positive Western blot, positive HIV-antigen test, or positive culture for HIV), regardless of symptoms. Ongoing tabulation of seroprevalence rates from the blood banks and the state-sponsored counseling and testing sites can also provide such information. During 1988, the MDH will begin to obtain HIV-seroprevalence data from patients in a variety of settings in the Twin Cities standard metropolitan statistical area (SMSA) as part of the CDC Family of Surveys. The settings will include the following: sexually transmitted disease clinics, tuberculosis clinics, clinics for women of reproductive age (such as family planning clinics), chemical dependency treatment facilities, a sentinal hospital (inpatients and outpatients), and neonates born in Minnesota. Such data will be used to evaluate the existing HIV surveillance system and to make appropriate recommendations for targeting HIV-risk-reduction programs.

**2.** Study and evaluate knowledge, attitudes, and behavior of persons at risk for acquiring HIV infection. High-risk persons include those likely to be exposed to HIV through sexual contact and persons who share needles when using intravenous drugs. To obtain these data, persons attending counseling and testing sites, family planning clinics, sexually transmitted disease clinics, and chemical dependency treatment facilities can be surveyed. Also, at-risk participants of AIDS education/safer sex programs can be given pre- and post-tests to assess these issues.

**3.** Continue to conduct outreach programs. These programs are intended to reach high-risk persons so that 1) they perceive their risk of acquiring HIV; 2) persons who are infected with HIV know ways to limit transmission; and 3) persons who are not infected can remain so. These programs are specifically intended to reach people who may not be identified through community-based organizations. Outreach programs include the following: media campaigns; third-party contact notification; partner outreach services (a program to help HIV-infected persons notify their own partners); and follow-up of persons identified to be HIV-infected through physicians' offices, hospitals, clinics, and laboratories (including blood banks). These programs are currently in place and will continue.

**4.** Conduct programs leading to risk-elimination/reduction through behavior change, primarily through MDH funding of community-based organizations. Such organizations should provide services to persons at increased risk, such as gay or bisexual men, persons who engage in prostitution, intravenous drug users, persons with hemophilia, and sexual partners of persons at risk. On October 1, 1987, the MDH awarded funding to eight agencies in Minnesota to conduct community-based risk-reduction activities. These include: Health Start (high-risk teen-agers), Hennepin County Community Health Department (correctional facility staff and inmates), Lutheran Social Services (youth in prostitution), the Minneapolis Health Department (women of childbearing years at high risk), the Minnesota Institute for Black Chemical Abuse, the Minnesota AIDS Project, the St. Paul Division of Public Health (HIV-antibody-negative clients who persistently engage in high-risk behaviors), the University of Minnesota Comprehensive Hemophilia Center, and Women Helping Offenders (women in the correctional system). Funding for these agencies will be for a 15-month period (October 1987 through December 1988). The commissioner of health has reorganized the Commissioner's Task Force on AIDS to focus on the public health role in promoting behavior change. The initial task force report will be presented to the commissioner by the end of 1988.

**5.** Provide adult public education. This objective is ongoing and

**TABLE**
Objectives of the Statewide Risk Reduction and Disease Prevention Center Plan, Minnesota 1988

1. To study the prevalence and incidence of HIV infection in Minnesota.
2. To study and evaluate knowledge, attitudes, and behavior of persons at risk of acquiring HIV infection.
3. To conduct outreach programs.
4. To conduct programs leading to risk elimination/reduction through behavioral change.
5. To provide adult public education.
6. To provide youth education.
7. To provide professional education to health care providers.
8. To develop a plan for addressing the disproportionate risk of acquiring HIV infection among Minnesota's communities of color.
9. To assist local public health agencies in developing community-based plans for dealing with HIV infection in their areas and providing education to their local communities.
10. To evaluate the efficacy of all risk-reduction programs.

is achieved predominantly through media efforts, public lectures and seminars, education in the workplace, and the Minnesota AIDSLINE. Public education is aimed at the prevention of HIV transmission and the prevention of "hysteria" related to AIDS and discrimination against HIV-infected persons. Because some people engaging in high-risk activities do not have access to information directed at high-risk groups, educational programs for the general public must also contain information about specific risk activities.

**6.** Provide youth education. The MDH will continue to work with the Minnesota Department of Education to assure that all Minnesota students know how to protect themselves from becoming infected with HIV. The MDH is also working to assure that local community health service agencies can respond to the HIV informational needs of school administrators and educators.

**7.** Educate health care providers. Professional education can be offered through the MDH Disease Control Newsletter and seminars and lectures intended for health care professionals. In addition, the MDH will work with other organizations to provide such education, including the Minnesota Medical Association, the Minnesota Nursing Association, the Minnesota Hospital Association, the Minnesota Dental Association, and the Minnesota Chapter of the Association of Practitioners in Infection Control. Professional education should focus on routine HIV risk assessment and, where appropriate, risk-reduction counseling. Professional education should also emphasize infection control practices aimed at preventing transmission of HIV to health care providers.

**8.** Develop a plan for addressing the disproportionate risk of acquiring HIV infection among Minnesota's communities of color. A disproportionate number of AIDS cases has occurred among Minnesota's communities of color, indicating that such persons are at increased risk of acquiring HIV infection. Therefore, the MDH will assess the level of risk and evaluate HIV-antibody seroprevalence in persons of color. In addition, the MDH is developing a survey to determine current knowledge, attitudes, and behaviors regarding HIV infection in persons of color. Also, programs aimed at risk reduction and behavior change will be developed this year for communities of color in Minnesota.

**9.** Assist local public health agencies in developing community-based plans for dealing with HIV infection in their areas and providing education to their local populations. The MDH recently awarded funding to eight local public health agencies to enable them to develop model community education programs. In addition, the MDH intends to work with other community health service agencies throughout Minnesota to help them develop approaches for providing local HIV education and services. These approaches need to establish consensus in the community for dealing with local issues related to HIV infection; provide education to local populations through the use of media, schools, social and religious organizations, and the workplace; and assure that adequate services are available to persons infected with HIV and to persons with AIDS.

**10.** Evaluate the efficacy of risk-reduction programs. Efficacy of risk elimination/reduction programs can be measured through specific and general outcome, impact, and process objectives outlined by the MDH. Outcome objectives focus on measurable data (i.e., seroprevalence rates in high-risk populations) for Minnesota in 1991. Process objectives identify activities to be conducted by the MDH during the current one-year budget period. Impact objectives specify anticipated results of targeted educational efforts during the corresponding budget period. All such objectives involve timed and measurable outcomes.

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*Kristine MacDonald is assistant state epidemiologist in the Acute Disease Epidemiology Section of the Minnesota Department of Health in Minneapolis, Minnesota.*

*Members of the Commissioner's Task Force on AIDS: Robert Bowman, M.D., St. Paul; Ed Eberhardt, St. Paul; Eric Engstrom, Minneapolis; Morris Floyd, Minneapolis; Robert Kane, M.D., Minneapolis; Aggie Leitheiser, R.N., B.S., Buffalo; Mrs. Lee Luebbe, Winona; Michael Moen, M.P.H., Minneapolis; James Nelson, Ph.D., New Brighton; Michael Osterholm, Ph.D., M.P.H., Minneapolis (chairperson); A. Jeanne Pfeiffer, B.S.N., Minneapolis; Herbert Polesky, M.D., Minneapolis; Frank Rhame, M.D., Minneapolis; Rodney Thompson, M.D., Rochester; John Weiser, M.D., Minneapolis; David Williams, M.D., St. Louis Park; Roslyn Yomtovian, M.D., St.Cloud; and Sue Zuidema, Minneapolis.*

**References**

1. MacDonald KL, and the Commissioner's Task Force on AIDS: Human Immunodeficiency Virus in Minnesota: Statewide risk reduction and disease prevention plan. Minn Med 69:467-468, 1987.

# YOCON®

## YOHIMBINE HCl

**Description:** Yohimbine is a 3a-15a-20B-17a-hydroxy Yohimbine-16a-carboxylic acid methyl ester. The alkaloid is found in Rubaceae and related trees. Also in Rauwolfia Serpentina (L) Benth. Yohimbine is an indolalkylamine alkaloid with chemical similarity to reserpine. It is a crystalline powder, odorless. Each compressed tablet contains (1/12 gr.) 5.4 mg of Yohimbine Hydrochloride.

**Action:** Yohimbine blocks presynaptic alpha-2 adrenergic receptors. Its action on peripheral blood vessels resembles that of reserpine, though it is weaker and of short duration. Yohimbine's peripheral autonomic nervous system effect is to increase parasympathetic (cholinergic) and decrease sympathetic (adrenergic) activity. It is to be noted that in male sexual performance, erection is linked to cholinergic activity and to alpha-2 adrenergic blockade which may theoretically result in increased penile inflow, decreased penile outflow or both.

Yohimbine exerts a stimulating action on the mood and may increase anxiety. Such actions have not been adequately studied or related to dosage although they appear to require high doses of the drug. Yohimbine has a mild anti-diuretic action, probably via stimulation of hypothalmic centers and release of posterior pituitary hormone.

Reportedly, Yohimbine exerts no significant influence on cardiac stimulation and other effects mediated by B-adrenergic receptors, its effect on blood pressure, if any, would be to lower it; however no adequate studies are at hand to quantitate this effect in terms of Yohimbine dosage.

**Indications:** Yocon® is indicated as a sympathicolytic and mydriatric. It may have activity as an aphrodisiac.

**Contraindications:** Renal diseases, and patient's sensitive to the drug. In view of the limited and inadequate information at hand, no precise tabulation can be offered of additional contraindications.

**Warning:** Generally, this drug is not proposed for use in females and certainly must not be used during pregnancy. Neither is this drug proposed for use in pediatric, geriatric or cardio-renal patients with gastric or duodenal ulcer history. Nor should it be used in conjunction with mood-modifying drugs such as antidepressants, or in psychiatric patients in general.

**Adverse Reactions:** Yohimbine readily penetrates the (CNS) and produces a complex pattern of responses in lower doses than required to produce peripheral a-adrenergic blockade. These include, anti-diuresis, a general picture of central excitation including elevation of blood pressure and heart rate, increased motor activity, irritability and tremor. Sweating, nausea and vomiting are common after parenteral administration of the drug.[1,2] Also dizziness, headache, skin flushing reported when used orally.[1,3]

**Dosage and Administration:** Experimental dosage reported in treatment of erectile impotence.[1,3,4] 1 tablet (5.4 mg) 3 times a day, to adult males taken orally. Occasional side effects reported with this dosage are nausea, dizziness or nervousness. In the event of side effects dosage to be reduced to ½ tablet 3 times a day, followed by gradual increases to 1 tablet 3 times a day. Reported therapy not more than 10 weeks.[3]

**How Supplied:** Oral tablets of Yocon® 1/12 gr. 5.4 mg in bottles of 100's NDC 53159-001-01 and 1000's NDC 53159-001-10.

**References:**

1. A. Morales et al., New England Journal of Medicine: 1221, November 12, 1981.
2. Goodman, Gilman — The Pharmacological basis of Therapeutics 6th ed., p. 176-188. McMillan December Rev. 1/85.
3. Weekly Urological Clinical letter, 27:2, July 4, 1983.
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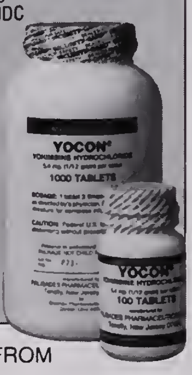

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# AIDS and Emergency Medical Services

*T. J. Crimmins, M.D.*

Although the AIDS epidemic has little direct impact on the provision of emergency medical services in Minnesota, the fear of AIDS has aroused considerable concern among police, firefighters, paramedics, and the emergency medical technicians who provide prehospital emergency medical care in this state. With recent case reports of health care workers seroconverting during the course of employment[1] and studies suggesting that 3% of trauma victims transported to an urban emergency department are HIV seropositive,[2] these agencies are raising legitimate questions about the risk to providers, the proper precautions to take, and the appropriate education of emergency medical service personnel. Issues have arisen regarding the proper documentation, surveillance, and follow-up of EMS providers' significant exposures to blood and body fluids. Physicians who act as medical advisors to these agencies must lead educational efforts to reduce unfounded fear; establish appropriate precautions; and provide a system of support, counseling, follow-up, and surveillance of emergency medical technicians who report exposures to blood and body fluids during the provision of emergency medical care.

## Standard Operating Procedures: Infectious Disease

The State Health Department's Statewide EMS Advisory Task Force has developed guidelines for adoption by ambulance services and EMS agencies. The following "Standard Operating Procedures" should be adopted immediately.

- Exposure to blood should be minimized. When the possibility of exposure to blood or other body fluids exists, gloves are recommended. During extrication, or when broken glass is present, leather gloves or firefighter gloves should be worn. If hands accidentally become contaminated with blood, they should be washed thoroughly as soon as possible.

  When there is risk of eye or mouth contamination (for example, the patient is vomiting blood material or there is arterial bleeding), protective eyewear and masks are recommended.
- Needles and other sharp objects should be considered potentially infective and should be handled with extraordinary care.

  Needles should not be recapped. If it is absolutely necessary to recap a needle, use the appropriate technique prescribed by the emergency medical service. Needles, syringes, and broken glass vials should be immediately placed in puncture-proof containers after use.
- Pocket masks with one-way valves, if possible, or positive-pressure ventilators should be used for artificial respiration whenever possible.
- Equipment should be thoroughly cleaned per protocol after each use. Disposable equipment should be considered for use whenever appropriate.
- In the event of significant exposure to blood or body fluids, supervisory personnel should be promptly informed.
- Significant exposure is defined as:

1. Any puncture of the skin by a needle or other sharp object that has had contact with the patient's blood or body fluids or with fluids infused into the patient.
2. Blood splattered onto mucous membranes (e.g., mouth or eyes).
3. Contamination of open skin (cuts, abrasions, open dermatitis, blisters) with blood, vomitus, saliva, amniotic fluid, or urine. Bite wound to providers would be included in this category.

- Your policies should define a plan of action in the event of a significant exposure of an emergency responder to blood or body fluids.

## Other Procedures

Protocols for equipment and ambulance cleaning can be obtained from the EMS Division of the State Health Department.

Procedures are available for reporting, documenting, and treating significant exposures to blood and body fluids. The Statewide EMS Advisory Task Force has recommended that the EMS employer pay for the HIV testing of a source patient if the testing is conducted exclusively to counsel an exposed health care provider, and that the EMS employer pay for the testing and counseling of that health care provider.

## Pre-employment Testing

The task force did not take a position on HIV testing prior to employment. Recent court rulings indicated that discrimination against HIV-positive individuals is barred under federal laws protecting the handicapped, who despite

**EMS** *to page 319*

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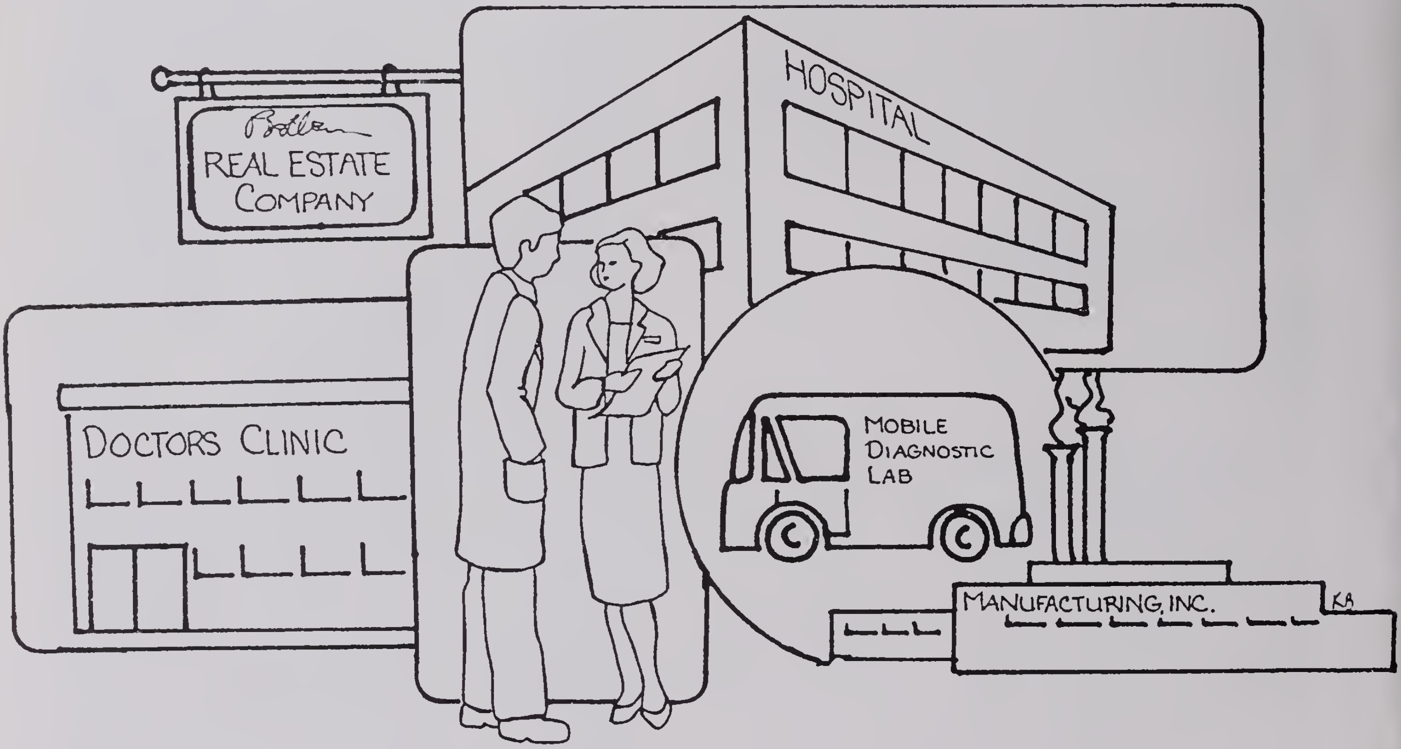

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†See Warnings and Precautions.

Please see brief summary of prescribing information on the next page.

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**BRIEF SUMMARY**
*Professional Use Information*

**CARDIZEM®**
*(diltiazem HCl)*
*30 mg, 60 mg, 90 mg, and 120 mg Tablets*

**CONTRAINDICATIONS**

*CARDIZEM is contraindicated in (1) patients with sick sinus syndrome except in the presence of a functioning ventricular pacemaker, (2) patients with second- or third-degree AV block except in the presence of a functioning ventricular pacemaker, (3) patients with hypotension (less than 90 mm Hg systolic), and (4) patients who have demonstrated hypersensitivity to the drug.*

**WARNINGS**

1. **Cardiac Conduction.** *CARDIZEM prolongs AV node refractory periods without significantly prolonging sinus node recovery time, except in patients with sick sinus syndrome. This effect may rarely result in abnormally slow heart rates (particularly in patients with sick sinus syndrome) or second- or third-degree AV block (six of 1,243 patients for 0.48%). Concomitant use of diltiazem with beta-blockers or digitalis may result in additive effects on cardiac conduction. A patient with Prinzmetal's angina developed periods of asystole (2 to 5 seconds) after a single dose of 60 mg of diltiazem.*
2. **Congestive Heart Failure.** *Although diltiazem has a negative inotropic effect in isolated animal tissue preparations, hemodynamic studies in humans with normal ventricular function have not shown a reduction in cardiac index nor consistent negative effects on contractility (dp/dt). Experience with the use of CARDIZEM alone or in combination with beta-blockers in patients with impaired ventricular function is very limited. Caution should be exercised when using the drug in such patients.*
3. **Hypotension.** *Decreases in blood pressure associated with CARDIZEM therapy may occasionally result in symptomatic hypotension.*
4. **Acute Hepatic Injury.** *In rare instances, significant elevations in enzymes such as alkaline phosphatase, LDH, SGOT, SGPT, and other phenomena consistent with acute hepatic injury have been noted. These reactions have been reversible upon discontinuation of drug therapy. The relationship to CARDIZEM is uncertain in most cases, but probable in some. (See PRECAUTIDNS.)*

**PRECAUTIONS**

**General.** *CARDIZEM (diltiazem hydrochloride) is extensively metabolized by the liver and excreted by the kidneys and in bile. As with any drug given over prolonged periods, laboratory parameters should be monitored at regular intervals. The drug should be used with caution in patients with impaired renal or hepatic function. In subacute and chronic dog and rat studies designed to produce toxicity, high doses of diltiazem were associated with hepatic damage. In special subacute hepatic studies, oral doses of 125 mg/kg and higher in rats were associated with histological changes in the liver which were reversible when the drug was discontinued. In dogs, doses of 20 mg/kg were also associated with hepatic changes; however, these changes were reversible with continued dosing.*

*Dermatological events (see ADVERSE REACTIDNS section) may be transient and may disappear despite continued use of CARDIZEM. However, skin eruptions progressing to erythema multiforme and/or exfoliative dermatitis have also been infrequently reported. Should a dermatologic reaction persist, the drug should be discontinued.*

**Drug Interaction.** *Due to the potential for additive effects, caution and careful titration are warranted in patients receiving CARDIZEM concomitantly with any agents known to affect cardiac contractility and/or conduction. (See WARNINGS.)*

*Pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta-blockers or digitalis concomitantly with CARDIZEM. (See WARNINGS.)*

*As with all drugs, care should be exercised when treating patients with multiple medications. CARDIZEM undergoes biotransformation by cytochrome P-450 mixed function oxidase. Coadministration of CARDIZEM with other agents which follow the same route of biotransformation may result in the competitive inhibition of metabolism. Dosages of similarly metabolized drugs, particularly those of low therapeutic ratio or in patients with renal and/or hepatic impairment, may require adjustment when starting or stopping concomitantly administered CARDIZEM to maintain optimum therapeutic blood levels.*

**Beta-blockers:** *Controlled and uncontrolled domestic studies suggest that concomitant use of CARDIZEM and beta-blockers or digitalis is usually well tolerated. Available data are not sufficient, however, to predict the effects of concomitant treatment, particularly in patients with left ventricular dysfunction or cardiac conduction abnormalities.*

*Administration of CARDIZEM (diltiazem hydrochloride) concomitantly with propranolol in five normal volunteers resulted in increased propranolol levels in all subjects and bioavailability of propranolol was increased approximately 50%. If combination therapy is initiated or withdrawn in conjunction with propranolol, an adjustment in the propranolol dose may be warranted. (See WARNINGS.)*

**Cimetidine:** *A study in six healthy volunteers has shown a significant increase in peak diltiazem plasma levels (58%) and area-under-the-curve (53%) after a one-week course of cimetidine at 1,200 mg per day and diltiazem 60 mg per day. Ranitidine produced smaller, nonsignificant increases. The effect may be mediated by cimetidine's known inhibition of hepatic cytochrome P-450, the enzyme system probably responsible for the first-pass metabolism of diltiazem. Patients currently receiving diltiazem therapy should be carefully monitored for a change in pharmacological effect when initiating and discontinuing therapy with cimetidine. An adjustment in the diltiazem dose may be warranted.*

**Digitalis:** *Administration of CARDIZEM with digoxin in 24 healthy male subjects increased plasma digoxin concentrations approximately 20%. Another investigator found no increase in digoxin levels in 12 patients with coronary artery disease. Since there have been conflicting results regarding the effect of digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing CARDIZEM therapy to avoid possible over- or under-digitalization. (See WARNINGS.)*

**Carcinogenesis, Mutagenesis, Impairment of Fertility.** *A 24-month study in rats and a 21-month study in mice showed no evidence of carcinogenicity. There was also no mutagenic response in in vitro bacterial tests. No intrinsic effect on fertility was observed in rats.*

**Pregnancy.** *Category C. Reproduction studies have been conducted in mice, rats, and rabbits. Administration of doses ranging from five to ten times greater (on a mg/kg basis) than the daily recommended therapeutic dose has resulted in embryo and fetal lethality. These doses, in some studies, have been reported to cause skeletal abnormalities. In the perinatal/ postnatal studies, there was some reduction in early individual pup weights and survival rates. There was an increased incidence of stillbirths at doses of 20 times the human dose or greater.*

*There are no well-controlled studies in pregnant women; therefore, use CARDIZEM in pregnant women only if the potential benefit justifies the potential risk to the fetus.*

**Nursing Mothers.** *Diltiazem is excreted in human milk. One report suggests that concentrations in breast milk may approximate serum levels. If use of CARDIZEM is deemed essential, an alternative method of infant feeding should be instituted.*

**Pediatric Use.** *Safety and effectiveness in children have not been established.*

**ADVERSE REACTIONS**

*Serious adverse reactions have been rare in studies carried out to date, but it should be recognized that patients with impaired ventricular function and cardiac conduction abnormalities have usually been excluded.*

*In domestic placebo-controlled trials, the incidence of adverse reactions reported during CARDIZEM therapy was not greater than that reported during placebo therapy.*

*The following represent occurrences observed in clinical studies which can be at least reasonably associated with the pharmacology of calcium influx inhibition. In many cases, the relationship to CARDIZEM has not been established. The most common occurrences as well as their frequency of presentation are: edema (2.4%), headache (2.1%), nausea (1.9%), dizziness (1.5%), rash (1.3%), asthenia (1.2%). In addition, the following events were reported infrequently (less than 1%):*

| | |
|---|---|
| *Cardiovascular:* | *Angina, arrhythmia, AV block (first degree), AV block (second or third degree—see conduction warning), bradycardia, congestive heart failure, flushing, hypotension, palpitations, syncope.* |
| *Nervous System:* | *Amnesia, depression, gait abnormality, hallucinations, insomnia, nervousness, paresthesia, personality change, somnolence, tinnitus, tremor.* |
| *Gastrointestinal:* | *Anorexia, constipation, diarrhea, dysgeusia, dyspepsia, mild elevations of alkaline phosphatase, SGDT, SGPT, and LDH (see hepatic warnings), vomiting, weight increase.* |
| *Dermatologic:* | *Petechiae, pruritus, photosensitivity, urticaria.* |
| *Dther:* | *Amblyopia, CPK elevation, dyspnea, epistaxis, eye irritation, hyperglycemia, nasal congestion, nocturia, osteoarticular pain, polyuria, sexual difficulties.* |

*The following postmarketing events have been reported infrequently in patients receiving CARDIZEM: alopecia, gingival hyperplasia, erythema multiforme, and leukopenia. However, a definitive cause and effect between these events and CARDIZEM therapy is yet to be established.* *Issued 6/87*

*See complete Professional Use Information before prescribing.*

**References: 1.** Schroeder JS: Mod Med 1982;50(Sept):94-116. **2.** Cohn PF, Braunwald E: Chronic ischemic heart disease, in Braunwald E (ed): Heart Disease: A Textbook of Cardiovascular Medicine, ed 2. Philadelphia, WB Saunders Co, 1984, chap 39. **3.** O'Rourke RA: Am J Cardiol 1985;56:34H-40H. **4.** McCall D, Walsh RA, Frohlich ED, et al: Curr Probl Cardiol 1985;10(8):6-80. **5.** Frishman WH, Charlap S, Goldberger J, et al: Am J Cardiol 1985;56:41H-46H. **6.** Shapiro W: Consultant 1984;24(Dec):150-159. **7.** O'Hara MJ, Khurmi NS, Bowles MJ, et al: Am J Cardiol 1984;54.477-481. **8.** Strauss WE, McIntyre KM, Parisi AF, et al: Am J Cardiol 1982; 49:560-566. **9.** Feldman RL, Pepine CJ, Whittle J, et al: Am J Cardiol 1982;49.554-559.

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# AIDS and the Law
## Confidentiality and Duty to Inform

*Susan L. Lentz, J.D., and Herbert F. Polesky, M.D.*

In testing for the presence of Human Immunodeficiency Virus (HIV) or treating its complications, a physician confronts a host of issues that may be as difficult in their legal and ethical dimensions as in their medical aspects. The process of diagnosing, counseling about, or treating Acquired Immunodeficiency Syndrome (AIDS) or AIDS-related illnesses may raise many questions for the physician, including:

- ► Must I secure the patient's informed consent before testing for HIV?
- ► Do I have the right to know the HIV status of my patients or to refuse to treat AIDS carriers?
- ► What obligations do I have to report a patient's HIV-seropositive status or to inform or warn others about it?
- ► Conversely, what duty do I have to maintain the confidentiality of that information?
- ► What standard of liability is likely to be imposed in situations where a claim is made that HIV was transmitted through the provision of health care?

For many of these questions, legal answers are far from clear-cut and are only beginning to emerge. However, the issues of confidentiality and duty to report or warn are immediate practical concerns for many Minnesota physicians. Consequently, this article focuses on two critical areas that raise unique questions in the context of AIDS: The nature and scope of the confidentiality protections accorded to HIV-seropositive status; and the rights and duties to inform or warn third parties about that status.

### HIV Transmission, Testing, and Consequences

The human immunodeficiency virus (HIV), previously known as HTLV-III or LAV and sometimes referred to as the AIDS virus, is a retrovirus first identified and propagated in cell cultures in 1984. Infection does not occur when contact between individuals is casual. However, sexual activity, sharing of needles, and inoculation of blood as occurs in a transfusion can result in infection.

Current data indicate that after exposure to the virus, an infected individual will develop antibodies (anti-HIV) to the proteins of the virus. Antibody may be detected within a few weeks after the person is infected. This antibody, unlike many, is not protective, but rather a manifestation of response to the virus in persons who are otherwise asymptomatic. Subsequently, as many as 70 percent of these individuals may develop clinical manifestations of AIDS. Even though the asymptomatic period may last for years, once a person is infected, he or she is probably infectious. The disease can take many forms, including mental disturbance, opportunistic infection, Kaposi's sarcoma, etc. The manifestations and complications of AIDS are severe and disabling. Unfortunately, once clinical AIDS occurs, the patient is likely to die of the disease.

Tests to detect the antibodies were rapidly developed once a method to obtain large quantities of virus in cell culture was established. In March 1985 the first commercially available enzyme-linked immunosorbent assay (ELISA) was licensed to screen blood donors. Once available, the test was used not only to screen donors, but also as a diagnostic test for patients and as part of the counseling made available to individuals at alternate test sites.

Since the test was designed to assure the safety of donated blood, it is very sensitive (probability the test will be reactive if the sample is from an infected individual). Because of its sensitivity, the test lacks specificity (probability the test will be nonreactive if the individual is not infected). This leads to false-positive tests and is one of the reasons why confirmation tests such as Western blots are used. False-negative results can also occur. This possibility is most likely to be observed in an individual who has been recently infected but has not yet developed detectable antibody. This period of time is referred to as the window phase and is probably very short.

### Privacy Rights and Reporting Obligations

When a patient, after appropriate informed consent,* is tested positive—that is, confirmatory tests show the presence of antibody to HIV—both the individual tested and the physician immediately may wonder what will be done with the test results. To what individuals or entities can or must the results be reported? And, conversely, what protections assure the confidentiality of the information?

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*Informed consent for testing is an area in which some states, but not Minnesota, have enacted specific legislation. In our view, the potential social, psychological, and medical consequences of testing make full information about risks, benefits, and consequences good practice in almost all circumstances.

The stigma and discrimination that have unfortunately all too often added to the burdens of those infected with HIV make the issue of confidentiality particularly compelling. As one court has noted, AIDS has been viewed by many as "the modern day equivalent of leprosy" (Rasmussen v. South Florida Blood Service, Inc., 500 So. 2d 533 [Fla.1987]). As a consequence, fear of reportability or of inadequate protection of confidentiality may discourage many persons at risk from seeking needed health care, counseling, and education. "AIDS has provoked so much fear, and the groups most at risk are so likely for other reasons to be stigmatized, that physicians must pay particular attention to maintaining confidentiality."[1]

The Surgeon General's Report on Acquired Immune Deficiency Syndrome took special note of these concerns:

> *"When a community or a state requires reporting of those infected with the AIDS virus to public health authorities in order to trace sexual and intravenous drug contacts—as is the practice with other sexually transmitted diseases—those infected with the AIDS virus go underground out of the mainstream of health care and education. For this reason current public health practice is to protect the privacy of the individual infected with the AIDS virus and to maintain the strictest confidentiality concerning his/her health records."*

**Reporting requirements:** In Minnesota, the fact that an individual has AIDS or is a carrier of the AIDS virus must be promptly reported to health authorities. Minnesota Rules, part 4605.7000 et seq., require physicians, health care facilities, and medical laboratories to report to health officials cases, suspected cases, carriers, and deaths due to any of a list of enumerated diseases (Minn. Rules, part 4605.7030-40). AIDS is the first disease on the list.**

Under the rule, "carrier" is defined as a "person identified as harboring a specific infectious agent in the absence of discernible clinical disease and who serves as a potential source of infection." Thus, reporting is not limited to those actually diagnosed with clinical AIDS but encompasses anyone testing positive. Moreover, the rules require that as much individual identifying information as is known be reported, including name, birth date, residence, and place of work.

Although a few commentators have attempted to challenge the legality or wisdom of required inclusion of individual identifiers, the principle of reporting rests on firm legal ground. Because Minnesota requires the same reporting for carrier status as for clinical AIDS, the extent of confidentiality protections becomes particularly critical.

**Statutory protection of confidentiality:** In Minnesota, in contrast to several other states, there is at present no single statute specifically governing the confidentiality protections to be accorded to AIDS-carrier information. As a result, a variety of statutory and case law sources may apply.

### *Minnesota Government Data Practices Act*

Chapter 13, the Government Data Practices Act, classifies the degree of privacy to be accorded to various kinds of data maintained or collected by the state and political subdivisions and imposes penalties for its violation.

Minn. Stat. 13.38 (1987) classifies government health data on individuals as private data, i.e., data accessible to the subject but not accessible to the public (except under certain enumerated exceptions). This statute further provides that the government may disclose data to the subject's physician for certain purposes or, with the approval of the commissioner of health, for a variety of public health purposes, such as location of a carrier or prevention of the spread of disease.

In contrast, Minn. Stat. 144.658 (1986) imposes a limitation on access to health data in litigation: "Notwithstanding any law to the contrary, health data on an individual collected by public health officials conducting an epidemiological investigation to reduce morbidity or mortality is not subject to discovery in a legal action."

Minn. Stat. 13.42 deals with medical data, defined as data on patients in government-operated health care settings. These data are classified, for the most part, as private data available only to the subject, as provided in the statute governing an individual's access to his or her medical records. However, the statute further provides for a list of six exceptions where disclosure is permitted, i.e., to allow intergovernmental access or to administer federal funds.

### *Other Relevant Minnesota Statutes*

Various other Minnesota statutes may provide some degree of protection for information about an individual's HIV status in the records of a physician or nongovernment hospital. While there does not appear to be any explicit statutory protection of, for example, all office records of a physician in private practice, other case law and statutory provisions may indirectly achieve this end.

Minn. Stat. 144.651, subd. 16 (1986), is the section of the Patients and Residents of Health Care Facilities Bill of Rights addressing confidentiality of medical records. This section applies to persons in acute care inpatient facilities for longer than 24 hours, persons in long-term care, and persons receiving mental health treatment on an outpatient basis. It provides, in part that:

> *"Patients and residents shall be assured confidential treatment of their personal and medical records, and may approve or refuse their release to any individual outside the facility."*

Subdivision 15 of the same statute addresses and seeks to ensure treatment privacy, specifying that "case discussion, consultation, examination and treatment are

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**A bill pending in the Minnesota Legislature would permit anonymous testing without reporting for purposes of epidemiological study (H.F. 2448).

confidential." Both sections are subject to enforcement by the Department of Health and by private action (Minn. Stat. 144.652).

Minn. Stat. 595.02 (1987) sets forth testimonial privileges for physicians and other health professionals, forbidding them from disclosing, without the patient's consent, "any information or any opinion based thereon which the professional acquired in attending the patient in a professional capacity and which was necessary to enable the professional to act in that capacity." These privileges apply in the context of testimony in legal actions but may be subject to various exceptions.

Professional licensing statutes may also be a source of some confidentiality protections. For example, Minn. Stat. 147.091, setting forth grounds for disciplinary action against physicians, incorporates strictures against unethical or unprofessional conduct and against revealing a privileged communication. This and similar statutes may thus indirectly include professional norms and codes of ethics bearing on confidentiality and make violation grounds for disciplinary action.

### *Other States*

In contrast with Minnesota, several states have enacted statutes explicitly addressing the confidentiality of HIV information. Most of these statutes provide specific protection for the confidentiality of HIV test results, subject in some instances to limited circumstances in which release of the information is authorized.

The California statutes are one example of this approach. In California, negligent or willful disclosure of test results with individual identifiers, in the absence of express written authorization, subjects the discloser to civil penalties of up to $5,000, liability for damages to the test subject, and possible misdemeanor liability (Cal. Health and Safety Code 199.21 et seq). There are some limited exceptions to these prohibitions, including a newly enacted provision, effective January 1, 1988, permitting physician disclosure to the person believed to be the spouse of an HIV-positive individual. (Blood banks and plasma centers are another exception, with some mandated reporting.) The California statutes also provide for testimonial privileges as to HIV status, confidentiality of AIDS research records, and confidentiality of AIDS public health records (199.32-45).

California's specific protections thus are substantially different from the more generic Minnesota statutes. Indeed, the California regulations and penalties are so extensive that at least one malpractice insurer has begun distributing to physicians brochures about the confidentiality laws, together with adhesive labels, which it recommends be placed on the most visible portion of AIDS patients' files, reading in fluorescent orange as follows:

> **CONFIDENTIAL**
>
> Disclosure of any information contained in this file may result in civil penalties or criminal liability.

Federal statutes and regulations may also have a bearing on the confidentiality to be accorded to individually identifiable AIDS data, particularly if some form of a pending bill on the subject is adopted. H.R. 3071 (Waxman) contains extensive prohibitions against disclosure of identifying information with respect to individuals who have undergone HIV testing or their contacts.

Other, nonstatutory actions, including breach of implied contract or invasion of privacy or other malpractice action based on violation of professional norms, may provide potential further remedies for a breach of confidentiality (*Cf. Whalen* v. *Roe*, 429 U.S. 589 [1977]; *Farnsworth* v. *Proctor and Gamble* Co. 785 F.2d 1545 [11th Cir. 1985]).

**Protecting confidentiality in the litigation context:** Whatever statutory protections exist may frequently be subject to exceptions, prominent among which can be an exception for disclosure pursuant to court order. The courts have recently begun to hand down the first decisions specifically addressing disclosure of individual identity in the course of litigation for AIDS-related liability. Most of the decisions to date have occurred in the course of efforts to determine the identity of blood donors. And in that particularly sensitive context, most, but not all, courts have concluded that confidentiality concerns must be paramount.

In *Rasmussen* v. *South Florida Blood Service, Inc.*, 500 So. 2d 533 (Fla.1987), the plaintiff was an auto accident victim who, while hospitalized as a result of his injuries, received 51 units of blood. A year and a half later, he was diagnosed with AIDS and subsequently died. In a lawsuit against the automobile driver, Mr. Rasmussen's estate attempted to prove that the source of his AIDS was the necessary medical treatment following the accident. To that end, a subpoena was served for Blood Service records containing the names and addresses of the 51 donors. Although the trial court denied the Blood Service's motion to quash the subpoena, both the intermediate appellate court and the Florida Supreme Court held that the donors' identities should be protected from discovery.

In evaluating the interests involved, the Florida Supreme Court recognized that, on the one hand, the plaintiff's interest was not simply in learning names but also in establishing that one or more of the donors had AIDS or was in a high-risk group. The court noted that some method could be formulated to verify the Blood Service's report that none of the donors was a known AIDS victim while preserving the confidentiality of donors' identities.

On the other hand, the subpoena sought disclosure of identities without any restrictions on their use or any limitation on further inquiry or disclosure. The stigma and discrimination frequently attached to AIDS made this prospect unacceptable.

In addition to ruling that the disclosure sought involved constitutionally protected privacy interests, the court also held that the prospect of disclosure would be a significant disincentive to volunteer blood donation. "Because there is little doubt that the prospect of inquiry into one's private life and potential association with AIDS will deter blood donation, we conclude that society's interest in a strong and healthy blood supply will be furthered by the denial of discovery in this case" (Id. at 538). All these reasons, the court concluded, significantly outweighed the dubious probative value of the discovery.

While several other courts, as well as a number of legislatures, have followed similar reasoning in forbidding release of donor identities, at least one court has reached a contrary result. *Tarrant County Hospital District v. Hughes,* 734 S.W. 2d 675 (Tex. App. 1987), involved facts quite similar to those of *Rasmussen,* namely a case of alleged transfusion-associated AIDS leading to death and involving a request for discovery of donor identities. In *Tarrant* the appellate court upheld the trial court's order to disclose identities. However, that order was coupled with an order to the plaintiff not to contact donors or undertake further discovery without court permission.

Although the Texas court expressly rejected the *Rasmussen* opinion, the court noted that the trial court's order did contain safeguards against improper disclosure of identities. The court also emphasized another critical distinction: there was no evidence before the Texas court of effort by the hospital to determine whether any of the donors had been identified as AIDS victims. A three-judge dissent in Tarrant forbade disclosure of the names of donors, either directly or indirectly, to any third party.

A bill enacted by the Texas legislature in 1987 effectively overruled the Tarrant decision, establishing confidentiality and deletion of donor identification as the norm in any litigation or discovery context (S.B.1405). Thus, the carefully balanced approach taken by the Florida court may have more persuasive effect in any future litigation seeking to discover donor identities.

**Other rights or obligations to inform:** Apart from statutorily required reporting or disclosure in the context of litigation, a physician may confront other, even more complicated situations in which confidentiality interests have to be weighed against competing concerns. A significant example of these complex issues is the question whether the physician should reveal a patient's HIV-positive status to the patient's spouse or sexual partner. In the absence of steps by the patient and in view of the consequences of HIV transmission, does the physician have a duty to warn or protect this third person that transcends the obligations of physician-patient confidentiality?

A few states have simplified the legal dilemma by addressing this situation directly in statute. For example, in California as of January 1, 1988, it is permissible for a physician to inform the spouse. No civil or criminal liability attaches to physician disclosure of a patient's HIV-positive status to a person believed to be the patient's spouse (Cal. Health & Safety code 199.25 [1987]). (Likewise, California now provides by statute what is probably implicitly accepted practice in most states: that an individual identified as HIV positive may identify partners so that health officials can, in turn, inform and counsel them.)

In the absence of express statutory provisions, the rationale of *Tarasoff v. Regents of the University of California,* 131 Cal. Rptr. 14, 551 P. 2d 334 (1976), may provide some guidance. *Tarasoff* imposed a common law duty upon mental health professionals to take reasonable steps to protect identifiable third-party victims of patients believed to pose a serious threat of violence. This duty is viewed as superseding obligations of physician-patient confidentiality (Cf. Minn. Stat. 148.975-76).

It can at least be argued that this rationale should also apply to identifiable contacts of an HIV-positive patient. Some commentators have found a duty to warn on other grounds as well:

*"The trend in case law has been to place a duty on the doctors of patients with communicable diseases to warn the patients or their families that those in contact with such patients may contract the disease . . . .If the physician knows that the patient intends to engage in sexual relations with a certain person without informing the person that he or she has AIDS and without taking precautions to minimize the risk of transmission, the physician has a duty to warn that person of the possibility of infection from the patient."*[2]

The absence of a statute imposing specific confidentiality strictures upon physicians with respect to AIDS may increase the likelihood that a court could find a duty to warn. Several Minnesota statutes, including the "noncompliant carrier" law, Minn. Stat. 144.4175, enacted last year, may give some guidance as to overriding confidentiality in certain related circumstances. Voluntary contact notification by health officials may provide a solution in some situations. However, pending explicit statutory direction, physicians must balance the interests involved in the particular case, weighing carefully whether notification is necessary to protect the life or health of specific persons.

## Conclusion

Answers to questions of confidentiality and duty to warn in the context of AIDS are still evolving. Although this article has sought to outline some of the relevant considerations, it does not presume to provide legal advice.

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L. ASHLEY WHITESELL, M.D.

# Meeting the AIDS Challenge

My experience as MMA president this past year has brought more closely into focus for me the many challenges facing today's physicians—more people who can't afford care, loss of physician autonomy and prestige, reimbursement disparities, budget cuts, growing malpractice threats . . . The list goes on. But I am proud to say the experience has also revealed to me the tremendous power of organized medicine—its ability to meet these challenges head on. It is appropriate, then, that my closing letter has its place in an issue of our journal devoted to AIDS—a challenge that in some way will test us all.

Where did this disease come from? And how did it spread from its source to threaten much of the world?

Current evidence suggests that the etiologic agent of AIDS has been present in localized areas of Central Africa for at least several decades. Only during the last few years has it been spreading extensively in Africa, the United States, Haiti, and Western Europe. As of early 1987, about 30,000 cases of acquired immunodeficiency syndrome were reported in the United States. It is expected that another 250,000 or more will be recorded by 1991. The large numbers of AIDS cases now being documented throughout the world primarily stem from infections that occurred in the 1970s and '80s, before the causative virus was isolated and its pathogenesis and transmission understood. Before that, this disaster was largely unpreventable. Now, it demands an immediate and effective medical and social response to minimize the pain, suffering, and social upheaval the disease carries with it.

The etiologic agent of AIDS, the human immunodeficiency virus (HIV) has been isolated from a variety of body fluids, including blood, semen, vaginal fluids, tears, and saliva. Epidemiologic studies so far have indicated that only blood, semen, and vaginal secretions carry sufficient virus for transmission.

The presence of infectious amounts of virus in these three types of fluids portends a limited number of modes of transmission, i.e., sexual, IV transfusion of blood or blood products, accidental or purposeful inoculation of blood, and perinatal transmission. No other form of transmission has been documented. This virus has proven itself to be a potent agent and produces a high (13 to 34 percent) incidence of AIDS. Across the United States, the majority of HIV-seropositive individuals fall into certain subsets of society: homosexual and bisexual males, IV drug abusers, and prostitutes. At present there is no effective vaccine or chemoprophylactic or therapeutic agent to prevent or treat this disease. There are, however, safe, effective, and inexpensive means to prevent its transmission.

So, here we have a classic public health problem—a virulent infectious agent, a susceptible population, no known treatment, and effective prevention available. But the stigma an AIDS diagnosis carries adds a new dimension to the disease. People are afraid of AIDS, and many, including some physicians, harbor negative feelings about those people at greatest risk. Yet, we must leave judgment, discrimination, and reticence far behind us. We cannot hesitate to be frank and open in our efforts to educate people about the threat of AIDS and means of preventing its spread. We should adopt a three-pronged approach: One, we must educate the general public—knowledge and understanding must replace fear and apprehension. Two, we must teach people at risk how to avoid contracting the virus, and teach those who are HIV-infected how to avoid spreading it. Three, we must educate those who provide health care.

**People are afraid of AIDS, and many, including some physicians, harbor negative feelings about those people at greatest risk.**

The MMA, through its AIDS Task Force and other committees is focusing on the third approach—educating those who provide health care. This issue of *Minnesota Medicine* and the MMA's Regional AIDS Conference this month are both directed at teaching all of us how to replace ignorance and apprehension with understanding and compassion.

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*The President's full report will be presented to the 1988 Minnesota Medical Association House of Delegates.*

**Strickland** from page 246

**REECE** *What about your practice population? How many are gay, how many are heterosexual, and what are their disease complications?*

**STRICKLAND** I'm foremost a general internist, and most of my patients reflect that. But my specialty interest has drawn into my practice people who are HIV infected. I have about 50 with AIDS. I have another dozen or so patients with AIDS-associated complications that aren't AIDS. Most of those who are infected with HIV have been infected through sexual contact, most through homosexual contact, but certainly not all of them. I have a few people who have been infected through blood transfusions prior to the time we started testing the blood supplies, and a few who were infected through IV drug abuse. In general, these last groups are small in Minnesota, and small in my practice. Most HIV-infected people I care for are gay and bisexual men. My patients' disease complications represent the same mix seen in the epidemic nationally.

**REECE** *What advice would you give to primary care physicians in Minnesota on how to recognize AIDS, how to ferret out these patients, how to change their line of questioning to detect high-risk patients?*

**STRICKLAND** First, we need to find those people who are infected. We do that by questioning people about things that put them at risk of being infected. Such questions should focus on sexual contact, especially with many partners and partners of the same sex. Also, you ought to ask about intravenous drug abuse and past transfusions. But the sexual history is the most important thing to concentrate on. A positive history allows us to identify a person who may be at risk and perhaps to test that person. It's important to use test results to help educate the person. Finding an HIV-negative person is valuable because you can educate that person about ways of avoiding HIV exposure. Of course, you must inform the HIV-positive individuals about how not to infect other people. Knowing the sexual history helps you identify the person who actually has AIDS. That person may come in with symptoms of immunologic compromise—symptoms of pneumonia, meningitis, diarrhea, or peripheral neuropathies.

**REECE** *So you should be alert to the possibility of AIDS in people with unexplained pneumonia, diarrhea, meningitis, or other central nervous system complications. What are some of those central nervous system complications?*

**STRICKLAND** You can divide the central nervous system complications into two types—ones that have to do with the AIDS virus directly affecting neural tissue, dementia and so forth, and those that have to do with complications of opportunistic infections involving the central nervous system. These include meningitis, toxoplasmosis infection, etc.

**REECE** *As I'm conducting this interview, a controversial book called* Crisis: Heterosexual Behavior in the Age of AIDS, *by Masters, Johnson, and Kolodny, has just appeared. In that book, the authors say they examined 400 individuals who had an average of 10 or 11 sexual partners. Over 5 percent of these promiscuous heterosexuals were HIV-positive. Despite the controversy, one of authors' contributions may have been pointing out that having multiple sexual partners is a significant risk factor. Would you agree with that?*

**STRICKLAND** That's right, regardless of whether those are homosexual or heterosexual sexual partners.

**REECE** *But part of the authors' problem is that they make statements to the effect that one can acquire AIDS through casual exposure. They also say AIDS is "rampant" in heterosexuals. What do you think about these statements?*

**STRICKLAND** Their studies don't substantiate their conclusions, especially when you compare their small study to the enormous numbers of people who have been studied in other situations at multiple centers. AIDS can be spread heterosexually, but we've seen nothing to tell us that it is "rampant" among heterosexuals. Masters and Johnson now say that "rampant" is too inflammatory a word. That AIDS is casually transmitted isn't substantiated in their book, either. We know that AIDS is transmitted primarily through blood, semen, and vaginal secretions, typically through sexual contact or blood exposure. Casual transmission of the virus is a small risk, if any at all.

**REECE** *You said earlier that now is the time to stop the epidemic from spreading in heterosexuals and in women and children.*

**STRICKLAND** That's right. We must grab the opportunity right now. We can make the difference in the world if we act now rather than 10 years from now, when it's too late.

**REECE** *How do we do that?*

**STRICKLAND** We do that by educating people. We do that by refocusing the concern about casual spread of the virus. People need to know where the risk is and how to protect themselves. That takes time and money, but it's worth it.

**REECE** *Do you think that the medical profession is doing its share in contributing to this educational program?*

**STRICKLAND** The "medical profession" is too general a term. Many people who are involved with AIDS in medicine are being extremely responsible and are taking a leadership role in dealing with the epidemic. Unfortunately, the number of these people remains small in the face of this epidemic.

**REECE** *Do you think that we physicians are guilty of stereotyping AIDS as a homosexual disease?*

**STRICKLAND** Yes. By and large physicians are still guilty of looking upon AIDS as a gay disease and of ignoring the disease and the epidemic by pretending it's going to

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go away. There is a tendency to stereotype gay men as being a uniform group of individuals who look and behave the same. That's not the case. When physicians tell me that they don't have to deal with AIDS because there are no gay men in their practices, I know they haven't taken the time to get to know their patients, because chances are high that there are a lot of gay men in their practices, but they aren't going to be able to identify them by any set of stereotypical appearances.

**REECE** *So you identify gay or other high-risk patients as we discussed before, by asking more probing, sensitive questions and by being alert to early complications?*

**STRICKLAND** You identify people who may be at risk, including gay men, by sensitive questions. We ask questions to help identify any sort of sexual activity that puts them at risk.

**REECE** *I want you to comment on the following statement from the* New York Times. *The title of it is "AIDS: Confronting the Epidemic." Dr. Steven C. Joseph, New York City health commissioner, made this statement: "The way mankind responds to crisis is first disbelief, then denial, then the third stage is mobilization, and we're at the horizon of that now." Do you think we're mobilizing and at the horizon?*

**STRICKLAND** It depends on the place. The New York City health commissioner may feel that New York City is at the horizon of mobilization. It is. That city is several phases beyond where we are. I would say that Minnesota, and a good part of the Upper Midwest, is probably closer to the stage of disbelief, moving toward denial. The mobilization stage is not yet upon us.

**REECE** *Do you still find a lot of denial? Do you find it both among the public and professionals?*

**STRICKLAND** Absolutely. You find denial everywhere. We're all human beings; physicians are responding with the same emotion everyone else is, and that is with disbelief or denial.

**REECE** *I'm now going to play a word-association game with you . I want you to comment. "Media fires."*

**STRICKLAND** "Media fires" are what the media does with AIDS. Most people get their information about AIDS from the media. The public learns scientific information from journalists. This means information the public gets is phrased in such a way as to make people buy the newspaper. This translates into sensationalism and, in some cases, inaccuracies.

Sensationalistic statements may create a great deal of anxiety in the community, either because they are inaccurate, or because they've simply been misquoted. I call these "media fires" because we have to put them out like fires.

Masters and Johnsons' book is a good example of a media fire.

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Although the book itself has inflammatory flourishes, the quotes from it in the media are even more inflammatory. We have to dig trenches around the fires with facts and logic and move on to the next crisis.

**REECE** *How do you respond to this statement: "All HIV-positive persons are doomed to develop AIDS"?*

**STRICKLAND** That statement should be altered to say many HIV-infected individuals eventually will develop HIV-associated complications. That doesn't mean all are going to develop AIDS. Some people may develop other HIV-associated complications—minor ARC symptoms or neurologic problems.

I don't believe we can say that every person will even necessarily develop HIV-associated complications. Some people are infected with the AIDS virus but maintain a relatively normal immunologic and neurologic system.

**REECE** *How do you react to the statement: "AIDS is a death sentence"?*

**STRICKLAND** AIDS *is* a death sentence. If you develop full-blown AIDS, you have developed one of its infections or its cancers. This means that you will eventually die or that the disease will eventually shorten your life.

**REECE** *Within the last month a spate of articles about AIDS treatments has appeared in the press. Nine treatments are listed, and AZT is No. 1. What are the promises of these new drugs?*

**STRICKLAND** AZT is a drug that we use widely now. AZT by no means cures AIDS, but it improves a person's chances of survival by suppressing reproduction of the AIDS virus. This results in fewer infections and longer life for infected people. AZT is the first step toward a drug that will do what we eventually want to do with AIDS, that is, suppress or control the disease by controlling the virus or reconstituting the immune system. That's what all the drugs do that we're looking at. The prospects for a cure are still remote.

**REECE** *What about an article in the May 4, 1987,* JAMA *saying that new vaccines are being tested by a company in West Haven, Connecticut—Microsyngenesis—under the sponsorship of the NIH. Should we be excited about this vaccine?*

**STRICKLAND** Yes. We should be excited about the possibility of a vaccine. As we know, other virus illnesses eventually have been controlled by use of vaccines. The answer to AIDS may be a vaccine. But developing a vaccine to protect us against this particular retrovirus is going to be very difficult. It's going to require a different technology than we have used for vaccines for other viral illnesses.

**REECE** *Why?*

**STRICKLAND** There is a heterogeneity or shifting of the surface proteins of the AIDS virus. This makes it difficult to produce a vaccine in the same way we produced the polio or hepatitis vaccines.

**REECE** *What about fears that other forms of HIV viruses will develop, such as the HIV-II?*

**STRICKLAND** HIV-II is not something we fear. It is a variation of the AIDS virus. Physicians and the public must recognize that HIV-II is transmitted between people in the same ways in which HIV-I is. It causes the same disease as HIV-I does. So, from an epidemiologic and a medical care perspective, it's no different at all. It is important in that it is not easily detected by the antibody test we currently use. The variation may produce a virus that makes it difficult to create a drug to control it or a vaccine to prevent it.

**REECE** *What is your feeling about giving clean needles to addicts? How do we contain the AIDS epidemic among intravenous drug users?*

**STRICKLAND** That's a real important issue. The control of AIDS among gay and bisexual men has been through education. With gays, you're talking about a group of well-educated and largely motivated individuals. With the heterosexual and non-intravenous drug abuse population, you can say the same thing.

But that's not the case with IV drug abusers. Intravenous drug abusers don't simply quit these drugs. After having spent many years working with intravenous drug abusers in other settings, I believe that providing clean needles or instructions about how to appropriately care for their needles in between uses is a way of stopping the spread of AIDS. We should do that without question. Meanwhile, we need to control the IV drug abuse epidemic and make sure treatment programs are available for people who want them. We now find long waiting lists of people who want to get into intravenous drug treatment programs. The doors have to be open for addicts so we can stop, or help them stop, the way they behave.

**REECE** *You've now had seven years' experience with this eight-year-old epidemic. What have you accomplished? What is your central mission?*

**STRICKLAND** I would like to think I am educating people about how not to become infected with the virus and how not to infect other people with the virus. I would like to see anxiety about AIDS reduced in the population. I would like to refocus concern away from casual spread and away from homosexuality as the only major element of the disease.

For myself, personally, I would like to be able to care for people with AIDS in a way that makes what life they have left a high-quality, comfortable, and positive time for them. That's what I can offer people with AIDS in a time when we don't have cures or even effective controlling drugs.

# NEWS CLIPS

## DOUBTFUL SAVINGS

While 68 percent of employee benefit managers surveyed by *Business Insurance*, a trade publication, believe HMOs help contain costs, only 42 percent have actually experienced any savings. Managers who doubt HMOs' cost-cutting potential cite their penchant for "adverse selection." By skimming off the healthiest patients, managers say, HMOs drive up the cost of traditional indemnity insurance, which, in turn, wipes out any savings that might result from their lower rates.

*Source:* Medical Economics, *February 15, 1988*

## FOLLOWING MEDICARE'S LEAD

Health care experts say decisions by insurers, especially Medicare, determine whether people get access to new medical treatments. When Medicare decides whether to cover the cost of a new item or service, private insurers and state Medicaid programs often follow its example. "Venture capitalists and established high-tech companies decide whether to invest in new products [based] in part on whether Medicare is likely to pay for their use," according to Wayne I. Roe, a health economist at Lewin/ICF, a Washington consulting firm. "If Medicare doesn't cover it, hospitals don't buy it, physicians don't prescribe it, and patients don't get it," he said.

*Source:* New York Times, *January 14, 1988*

## LIMITING RURAL HMO ENROLLMENT

Low rural rates may cause HMOs to limit their enrollment of rural beneficiaries under Medicare risk contracts this year. A survey by InterStudy, a research firm based in Excelsior, Minnesota, indicates that some HMOs with Medicare risk contracts intend to limit their service to urban areas to take advantage of higher rates. The HMOs say they are unable to cover their costs of providing care in rural areas due to higher-than-expected utilization, according to InterStudy.

*Source:* Modern Healthcare, *January 8, 1988*

## ASSESSING INEQUITIES

InterStudy, the Excelsior-based health policy research firm, has been awarded a two-year grant by the Northwest Area Foundation to study inequities in the Medicare/Medicaid financing of care in rural and urban areas.

The project will consist mainly of case studies in four rural counties in Minnesota and four in Oregon. Researchers will analyze extensive data on costs, utilization, and reimbursement, then compare these counties to urban areas to identify variances in the delivery and payment of care.

Following this assessment, InterStudy plans to recommend ways to redress any observed inequities.

## MEDIGAP INSURANCE

HMOs that leave Medicare's risk contract program must arrange Medigap insurance coverage for elderly members. All plans must warn Medicare enrollees that they could drop out of Medicare at the end of each year. Miscreant HMOs are liable for $100,000 in fines for failing to provide medically necessary items, charging excess premiums, or denying or discouraging enrollment.

*Source:* Physicians Financial News, *February 29, 1988*

## MED STUDENT NUMBERS DROP

The number of physicians graduating from medical school in the United States continued its downward trend in 1987, as 287 fewer students graduated than in 1986, according to *Family Practice News.*

The medical journal reports the number of female medical graduates continued to increase, making up more than 32 percent of the 1987 graduation class, compared with 30-plus percent in 1986.

The 15,830 students who received degrees from the 127 medical schools represent a 3.2 percent drop from the peak graduating class of 16,343 in 1984.

This is in keeping with the projection of a continued downward trend over the next three years, the journal notes. It estimates that by 1990 the graduating class will number approximately 15,600 students.

Among possible explanations mentioned for the drop in the number of medical school applicants were the high cost of medical school and post-graduate training and the cost of establishing a medical practice, along with a predicted surplus of physicians by 1990.

## U LIVER TRANSPLANT CHIEF

William D. Payne, M.D., director of the University of Minnesota's vascular surgery services and chief of the same services at the Minneapolis Veterans Administration Center, recently became director of the University's liver transplantation program.

Payne was named the program's director following the resignation of Nancy Ascher, who left the University in December to become chief of liver transplantation at the University of California-San Francisco.

## A RAMSEY CLINIC VP

Joel M. Koemptgen has been named vice president, planning and operations, for Ramsey Clinic, a multispecialty group of physicians providing care for patients at the St. Paul-Ramsey Medical Center and at branch clinics in the Twin Cities and western Wisconsin.

Koemptgen, a St. Paul native, was director of regional services at The Duluth Clinic, Ltd., Duluth. His career in health care administration also includes work with the Mille Lacs Family Health Centers, Isle, the City of Coon Rapids, and the Bureau of Community Health Services, Cambridge, Mass.

## MRI vs. CAT SCAN

Magnetic resonance imaging (MRI) is superior to the CAT Scan for diagnosing brain tumors, agreed a recent panel of the National Institutes of Health. Upon viewing the research, the group said that the MRI was more sensitive than the CAT Scan, allowing the radiologist to see lesions earlier and alter methods of treatment.

## HEALTH ONE CHAIR

Lee J. Canning, Twin Cities newspaper executive, has been named chair of the Health One corporation's board of directors. He succeeds John M. Murphy, Jr., a Twin Cities banking executive, in the volunteer post.

Health One, a not-for-profit corporation, provides hospital and diversified health services in the Twin Cities and Upper Midwest. Canning had served as its vice chair since it was established in 1987.

Succeeding Canning as vice chair is William E. Coyne, Ph.D., a group vice president with 3M, St. Paul.

Canning is vice president of Guy Gannett Minnesota Publications, publisher of 31 community weekly newspapers and shopping guides in Minneapolis, as well as suburban Hennepin, Ramsey, Anoka, and Dakota counties.

## NEW BME DIRECTOR

H. Leonard Boche has been named executive director of the Minnesota Board of Medical Examiners. He was formerly association manager of the Minnesota Association of Treatment Programs and managing director of the Chemical Dependency Clearinghouse of Minnesota.

Boche replaces David Ziegenhagen, who in February became chief executive officer of the Foundation of Health Care Evaluation in Bloomington.

The Board of Medical Examiners, composed of eight physicians and three public members appointed by the governor, is the state's medical regulatory authority and is responsible for enforcement of the state's Medical Practices Act.

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# AIDS Resources

## Minnesota Counseling and Testing Sites

Hennepin County Community Health Department
Red Door Clinic
527 Park Avenue
Minneapolis, MN 55415
(612) 347-3302

St. Paul Division of Public Health
Room 111 Clinic
555 Cedar Street
St. Paul, MN 55101
(612) 292-7752

Duluth Community Health Center
2 East 15th Street
Duluth, MN 55805
(218) 722-1497

Olmsted County Health Department
415 4th Street SE
Rochester, MN 55901
(507) 285-8338

Stearns County Community Health Services
Quiet Care Clinic
510 25th Avenue North
St. Cloud, MN 56302
(612) 255-6155

## AIDS Information Resources

Minnesota AIDS Hotline:
1-800-752-4281

Minnesota AIDS Project
2025 Nicollet Avenue South
Suite 200
Minneapolis, MN 55404
(612) 870-7773

Public Health Services Hotline:
1-800-342-AIDS (recorded information)
1-800-342-7514 (answers to specific questions)

AZT Hotline: 1-800-843-9388

Minnesota Department of Health
717 Delaware Street SE
Minneapolis, MN 55440
(612) 623-5414

AIDS Clinical Trials Unit
Box 437
University of Minnesota
Health Sciences Center
Minneapolis, MN 55455
(612) 625-1462

American Association of Physicians for Human Rights
P.O. Box 14366
San Francisco, CA 94114
(415) 558-9353

AIDS Action Council
729 Eighth Street SE, Suite 200
Washington, DC 20003
(202) 547-3101

Gay Men's Health Crisis
P.O. Box 274
132 West 24th Street
New York, NY 10011
(212) 807-6655

Hispanic AIDS Forum
c/o APRED
853 Broadway, Suite 2007
New York, NY 10003
(212) 870-1902 or (212) 870-1864

Los Angeles AIDS Project
1362 Santa Monica Boulevard
Los Angeles, CA 90046
(213) 871-AIDS

Minority Task Force on AIDS
c/o New York City Council of Churches
475 Riverside Drive, Room 456
New York, NY 10115
(212) 749-1214

Mothers of AIDS Patients (MAP)
c/o Barbara Peabody
3403 E Street
San Diego, CA 92102
(619) 234-3432

National Association of People with AIDS
P.O. Box 65472
Washington, DC 20035
(202) 483-7979

National Coalition of Gay Sexually Transmitted Disease Services
c/o Mark Behar
P.O. Box 239
Milwaukee, WI 53201
(414) 277-7671

Minnesota Medical Association
2221 University Avenue SE,
Suite 400
Minneapolis, MN 55414
1-800-843-6562, ext. 215
or (612) 378-1875

## Resources on AIDS Education

AIDS Action Council
729 8th Street, Suite 200
Washington, DC 20003
(202) 547-3101

AIDS Project/Los Angeles
7362 Santa Monica Boulevard
Los Angeles, CA 90046
1-800-922-2437

## Education Resources cont.

American Association of Physicians
for Human Rights
P.O. Box 14366
San Francisco, CA 94114
(415) 558-9353

American Foundation for AIDS
Research
900 Wilshire Boulevard, 2nd Floor
East Satellite
Los Angeles, CA 90036
(213) 857-5900

American Red Cross
AIDS Education Office
1730 D Street NW
Washington, DC 20006
(202) 737-8300

Computerized AIDS Information
Network
1213 North Highland Avenue
Hollywood, CA 90038
(213) 464-7400, ext. 277

The Fund for Human Dignity
666 Broadway
New York, NY 10012
(212) 529-1600

Gay Men's Health Crisis
P.O. Box 274
132 West 24th Street
New York, NY 10011
(212) 807-6655

Haitian Coalition on AIDS
255 Eastern Parkway
Brooklyn, NY 11238
(718) 735-3568

Health Education Resouces
Organization
101 West Read Street, Suite 812
Balitmore, MD 21201
(301) 945-AIDS

Hispanic AIDS Forum
c/o APRED
853 Broadway, Suite 2007
New York, NY 10003
(212) 870-1902

Lambda Legal Defense and
Education Fund
132 West 43rd Street
New York, NY 10036
(212) 944-9488

National Association of People with
AIDS
1012 14th Street NW
Washington, DC 20005
(202) 347-1317

National AIDS Network
1012 14th Street NW
Washington, DC 20005
(202) 347-0390

National AIDS Testing
3801 North University Drive,
Suite 507
Sunrise, FL 33321
1-800-356-2437

National Coalition of Gay Sexually
Transmitted Disease Services
P.O. Box 239
Milwaukee, WI 53201
(414) 277-7671

National Coalition of Hispanic
Health and Human Services
Organizations
Attn: Robert Cullen
1030 15th Street NW, Suite 1053
Washington, DC 20005
(202) 371-2100

National Gay and Lesbian Task
Force
1517 U Street NW
Washington, DC 20009
(202) 332-6483

National Lesbian and Gay Health
Foundation
P.O. Box 65472
Washington, DC 20035
(202) 332-5939

National Hemophilia Association
19 West 34th Street, Suite 1204
New York, NY 10001
(212) 563-0211

San Francisco AIDS Foundation
333 Valencia Street, 4th Floor
San Francisco, CA 94103
(415) 864-4376

World Health Organization
Attn: Ronald St. John, M.D.
525 23rd Street NW
Washington, DC 20037
(202) 861-4353

## EMS from page 303

their handicaps, are otherwise qualified to do their jobs given reasonable accommodations. The task force acknowledged the low risk of the health care provider infecting the patient but recognized a need for baseline testing to determine if a subsequent HIV-positive blood test was occupationally related. The task force adopted the position that an HIV-infected prehospital health care worker could continue to practice his or her profession (provided the worker is able to perform his or her duties) with appropriate counseling and precautions. The task force based its position on current knowledge available in the medical literature and from the Centers for Disease Control.

### Conclusion

It is difficult to assess the impact of the AIDS epidemic in the emergency medical services setting at this time. The risk to emergency medical providers is extremely low. However, the public perception of the risk of acquiring a fatal illness may impair a community's ability to maintain a qualified and fully staffed volunteer ambulance service. Actions need to be taken now to ensure continued access to high-quality emergency medical care throughout the state.

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*T. J. Crimmins practices emergency medicine at Hennepin County Medical Center and Fairview Southdale Hospital. He is medical director of the Edina Emergency Medical Service and is a member of the West-Metro EMS Council.*

**References**

1. Weiss SH, Saxinger WC, Rechtman D, et al.: HTLV III infection among health care workers: association with needlestick injuries. JAMA 254:2089-2093, 1985.
2. Baker JL, et al.: Unsuspected human immunodeficiency virus in critically ill emergency patients. JAMA 257:2609-2611, 1987.

# CME IN MINNESOTA

### Provided through the MMA Medical Education Subcommittee on CME Resources

For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; (612) 378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

## MAY 1988

2-6 **Family Practice Review: Update 1988** Office of CME, University of Minnesota; Radisson Hotel South, Bloomington, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

5-6 **General and Peripheral Vascular Laser Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

6 **Duluth Clinic Primary Care Seminar: Problems in Managed Care** The Duluth Clinic, Ltd.; Fitger's Spirit of the North Theater, Duluth, Minnesota. CONTACT: James G. Brueggemann, M.D., 400 East Third Street, Duluth, Minnesota 55805; (218) 722-8364, ext. 179.

11-12 **Human Aging: Behavior Problems in the Elderly** CME, Medical School, University of Minnesota; Mayo Memorial Auditorium, 420 Delaware Street, SE, Minneapolis, Minnesota. CONTACT: Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55112; (612) 626-5525.

14 **Pediatric Neurology: Common Issues for the Primary Care Practitioner** Minneapolis Children's Medical Center; Minneapolis Children's Medical Center, 2525 Chicago Avenue South, Minneapolis, Minnesota. CONTACT: Kathy Ingerson, 2525 Chicago Avenue South, Minneapolis, Minnesota 55404; (612) 863-5884.

14-15 **Laser Surgery in Dermatology** Office of CME, University of Minnesota; 3-110 MoosT, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

16-17 **Changing Health Care Spheres: The Effects on the Perinatal Patient and Provider** Great Plains Organization for Perinatal Health Care; Sheraton Park Place, Minneapolis, Minnesota. CONTACT: Mary McClung, Box 5039, 1100 South Euclid Avenue, Sioux Falls, South Dakota 57117; (605) 333-7191.

17 **Gynecologic Oncology** Office of CME, University of Minnesota; Radisson University Hotel, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

18 **Sports Medicine - CME** Mesabi Regional Medical Center; Mesabi Regional Medical Center, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746; (218) 262-4881, Ext. 259.

18-20 **Current Concepts in Radiation Therapy** Office of CME, University of Minnesota; Radisson University Hotel, 615 Washington Avenue SE, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

18-31 **Spain and Portugal** North Central Medical Conference. CONTACT: Harold Brunn, North Central Medical Conference, 1845 Hampshire Avenue, Suite 200, St. Paul, Minnesota 55116; (612) 698-1818.

19 **Twin Cities Tutorials, Cardiovascular Medicine** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220 (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

20-21 **Cardiovascular Medicine** Park Nicollet Medical Foundation; Naegele Auditorium, Minneapolis, Minnesota. CONTACT: Elaine Anderson, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3703.

20-21 **Mental Health Update for Primary Physicians** Park Nicollet Medical Foundation; Naegele Auditorium, Park Nicollet Medical Center, Minneapolis, Minnesota. CONTACT: Elaine Anderson, Park Nicollet Medical Foundation, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3703.

20-22 **International Mucopolysaccharidosis Congress** Office of CME, University of Minnesota; Radisson University Hotel, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

## JUNE 1988

3-5 **Maxillofacial Trauma** Office of CME, University of Minnesota; Health Sciences Center, University of Minnesota, 515 Delaware Street SE, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

8-10 **Computer-Based Medical Systems** Office of CME, University of Minnesota; Hyatt Regency Hotel, 1300 Nicollet Mall, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

8-10 **World Med '88** Office of CME, University of Minnesota; Hyatt Regency Hotel, 1300 Nicollet Mall, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

8-11 **Orthopaedic Surgery Review** Office of CME, University of Minnesota; Radisson Plaza Hotel, 35 South 7th Street, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

15-18 **Annual Surgery Course: Progress in Gastrointestinal Surgery** Office of CME, University of Minnesota; Willey Hall, Minneapolis Campus West Bank, 225 19th Avenue South, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

17 **New Strategies in Clinical Practice** Hennepin County Medical Center/Hennepin Faculty Associates; Holiday Inn, Bemidji, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2074.

20-22 **Topics and Advances in Pediatrics** Office of CME, University of Minnesota; Radisson University Hotel, 615 Washington Avenue SE, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

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**Lot For Sale:** Ultra-secluded 2-acre wooded lot in Eagan, $75,000, call Doug at 557-0314. (R)

**For Sale: General Practice** Roseville area. Includes office equipment and leased office space for 1-2 doctors. Call after 6 p.m. for more information (612) 633-9093. (R)

**Family Practice Opportunity:** Two-doctor clinic to add third family practitioner, summer of 1988. Shared call with 9 family practitioner-affiliated clinic. Close specialty back-up. 288-bed facility. 6,000 population community in northwest Twin Cities suburb. Competitive Twin Cities' area salary and excellent benefits. If interested, contact: Dr. James Walker at (612) 421-3680 (office), or 427-5704 (home) or Mr. Richard Moore at (612) 421-3680. 6-5/88

**Family Physician** who enjoys obstetrics wanted to join a progressive family-practice-oriented group in Wadena, Minnesota. This is an excellent opportunity for a self-starter who enjoys work, as the clinical practice is busy. Beautiful area, great community for family. For details contact: Dr. Tim Schmitt, (218) 631-1360, or James Lawson, Administrator, Tri-County Hospital, Wadena, Minnesota 56482; (218) 631-3510. (R)

**Pediatrician** wanted to join a 40-physician multispecialty group in northern suburbs of Minneapolis. The appropriate candidate will join the current Pediatric Department of four physicians in a very busy practice. Please address inquiries to: Bradford McKane, Comprehensive Medical Care, PA, 9055 Springbrook Drive, Coon Rapids, Minnesota 55433 or phone (612) 780-7032. (R)

**Family Physician** to join group of board certified family practitioners and one board certified general surgeon. Liberal vacation and education allowances. Competitive salary first year with incentive bonus and full membership after one year. Blue Earth is a community of 4,000 in southern Minnesota with a drawing area of 25,000. 43-bed hospital with adjoining clinic facilities. Complete ancillary support including anesthesiology, radiology, and pathology. Excellent opportunity for an aggressive young family physician. Please contact: Thomas E. Watts, M.D., Blue Earth Medical Center, Ltd., 520 South Galbraith, Blue Earth, MN 56013, Phone: (507) 526-7371, Personal Phone: (507) 526-3177; Marjeane Werner, Clinic Administrator, Phone: (507) 526-7371, Personal Phone: (507) 854-3682. (R)

**Wanted: Family Practitioner, Internal Medicine:** Central Minnesota. Starting salary $55,000. Write: Minnesota Medicine (813), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. (R)

**Family Practice For Sale:** Ideal location in outer metropolitan Twin Cities area. Includes X-ray, modern lab, and all ancillary equipment, which is in excellent condition. Reasonably priced. Ideal situation for family physician who wishes to take over existing practice and enjoy immediate patient load and income. Practice easily expandable, if desired, in this rapidly growing area. Write: Minnesota Medicine (816), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. (R)

**Twenty-nine Physician Multispecialty Clinic** located in desirable east-central Wisconsin location is seeking board certified or board qualified orthopedic surgeon to round out its services. Lab, X-ray, excellent hospital. Liberal guarantee and benefits. If interested, contact: D.F. Sweet, M.D., Fond du Lac Clinic, S.C., 80 Sheboygan Street, Fond du Lac, Wisconsin 54935. (R)

**Family Physician Sought** to join a group of five board certified family physicians practicing in a city of 3,500 population in the beautiful Minnesota River Valley. New hospital with new attached clinic and satellite locations with the very latest in equipment. Very busy, growing practice. Contact: D. Carter, M.D., (612) 564-2511 (office), (612) 564-4409 (home), 295 Tenth Avenue, Granite Falls, Minnesota 56241. (R)

**General Surgeon and Family Physician** needed for busy five-physician practice. Guaranteed first-year salary with excellent benefits program. Located only 22 miles from Duluth on the beautiful North Shore of Lake Superior. Call collect: (218) 834-2171, or write Steve Bjorum, Executive Director, Community Health Center, 4th Street at 11th Avenue, Two Harbors, Minnesota 55616. (R)

**Family Physician/Emergency Room:** Full-time salary working weekends, primarily emergency room. Flexibility available. Falls Medical Center, PA, 105 Shorewood Drive, International Falls, Minnesota 56649. Please contact: A. Johnson, M.D., or A. Marc Gorden, M.D., at (218) 283-9431 for more information. (R)

**Family Practitioner, General Internist, and General Surgeon** to join 8-physician clinic in Cloquet, Minnesota, a community of 14,000 (30,000 service area), located 20 minutes from Duluth-Superior. The clinic facility is located one block from modern, well-equipped hospital. Cloquet enjoys a stable economy (forest products). Additionally, our community is noted for its excellent school system. First-year salary guarantee, paid malpractice, health and disability insurance, vacation, and study time. Contact: John Turonie, Administrator, Raiter Clinic, Ltd., 417 Skyline Boulevard, Cloquet, Minnesota 55720; (218) 879-1271. (R)

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**Family Physician** needed to replace retiring partner in thriving 3-FP full-service practice in Starbuck, Minnesota, on the state's thirteenth largest lake. Good hunting and fishing. Modern nine-year old hospital. Twenty miles to University Campus. Call or write: Robert Bosl, M.D., Starbuck Clinic PA, Starbuck, Minnesota 56381; (612) 239-2231. (R)

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**Internist** needed to join well-established practice in a community of 45,000. First-year salary guarantee with excellent fringe benefits. Contact: Diagnostic Center, 304 Belle Avenue, Mankato, Minnesota 56001; (507) 388-1655. (R)

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**Arizona-Based Physician Recruitment** firm has quality opportunities coast-to-coast. Available positions in most primary care and surgical specialties to include Ob/Gyn, Orthopedics, ER, and ENT. "Quality Physicians for Quality Clients since 1972." Call (602) 990-8080; or send CV to: Mitchell & Associates, Inc., PO Box 1804, Scottsdale, Arizona 85252. *(R)

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**Sathe & Associates Executive Search Firm** is currently seeking physicians for positions locally and nationally. Explore new opportunities with a medical professional who is discreet and thorough. Be assured your CV will be handled in strictest confidence. There is, of course, no financial obligation to candidates. To initiate your search, please call or write: Liz Johnson: Sathe & Associates, Inc., 5821 Cedar Lake Road, St. Louis Park, Minnesota 55416; (612) 546-2100 (R)

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**General Internist, Urologist, Ophthalmologist, Internist-Cardiologist, Family Practice** positions available with the Mankato Clinic, a 35-doctor multispecialty group practice in South-central Minnesota with a trade area population of 150,000. Salary first year, incentive thereafter, with full range of benefits and liberal time off. For more information, call Roger Greenwald, Administrator, or Dr. B.C. McGregor (507) 625-1811 or write: 501 Holly Lane, Mankato, Minnesota 56001. (R)

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**Canterbury Inn Bed & Breakfast:** Rochester's unique alternative to hotel living. Victorian charm with modern comforts. Private baths, fireplace, central air conditioning, gourmet or special diet breakfast anytime, "tea-time" (wine, hors d'oeuvres, etc.) daily. Private, off-street parking, three blocks to Mayo Clinic and St. Mary's. A very special place for you, your colleagues, and your patients while in Rochester. $55/single, $65/double. 723 Second Street SE, Rochester, Minnesota 55902; (507) 289-5553. (R)

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**BE/BC Family Practice, Internal Medicine, OB/GYN & Psychiatrist:** Excellent opportunity to join a well-established, progressive, 15-physician multispecialty group (7 FP, 4 IM, 2 GS, 1 OB/GYN, 1 DERM) located in an economically sound community of 19,000 (drawing area of 30,000), 65 miles south of Twin Cities. Full membership after one year. One FP retiring in 1987. Competitive salary and fringe benefit package. Contact: Pat Greenwood, M.D., or Jim Wilkus, Administrator, 134 Southview, Owatonna, Minnesota 55060; (507) 451-1120. (R)

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**BE/BC OB/GYN or GYN/GYN SURGERY,** to join a busy 11-man multispecialty group in southern Minnesota, a community of 12,000 (trade area of 70,000), competitive salary and fringe benefits. Contact: Don Grandgenett, 8 a.m., Fairmont Medical Clinic, 800 Clinic Circle, Fairmont, Minnesota 56031; (507) 238-4263. (R)

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**FP/GP Locum Available for Work** Lic. Minnesota, Wisconsin, SD, ND, Colorado, Utah, Missouri. Contact: Dr. Olin, 508 32nd Avenue South, Apt. 1, Moorhead, Minnesota 56560; (218) 233-1159. (R)

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**Family Physician** wanted to join four physicians, one nurse practitioner, FP group practicing in two offices in Pine River and Pequot Lakes. Competitive salary. No OB. No HMOs. Rural area with outdoor recreational opportunities. Rotate hospital visits, emergency call; adequate free time. Call or write: C.R. Pelzl, M.D., Pine and Lakes Clinics, PO Box 88, Pine River, Minnesota 56474; (218) 587-4416. (R)

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**Family Practice:** Two BC/BE family practitioners needed for expanding practice in the St. Cloud/Alexandria, Minnesota, area. Offering $75,000 first-year salary and full corporate membership after one year. Contact: Paul Van Gorp, M.D., (612) 732-2131. 4-5/88

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**1988 CME Cruise/Conferences on Medicolegal Issues & Risk Management:** Caribbean, Mexico, Alaska, China/Orient, Europe, New England/Canada, Trans Panama Canal, South Pacific. Approved for 24-28 CME Category 1 Credits (AMA/PRA) and AAFP prescribed credits. Distinguished lecturers. EXCELLENT GROUP RATES ON FINEST SHIPS. Registration limited. Pre-scheduled in compliance with IRS requirements. Information: International Conferences, 189 Lodge Avenue, Huntington Station, New York 11746; (516) 549-0869. *4-5/88

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**Primary Care Physicians:** Office radiology over-reading service. Overnight turnaround, films always in your office when you need them. High-quality consultation at very low professional fees. Please send inquiries to: Minnesota Medicine (820), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. 6-8/88

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**OB/GYN:** Central Minnesota Obstetrics & Gynecology, PA of St. Cloud, Minnesota, is seeking American-trained BE/BC OB/GYN to join a rapidly growing practice in central Minnesota. Guaranteed salary with excellent fringe benefits. Please send CV to: Michael C. Flanagan, M.D., or Lynn A. Hagedorn, M.D., 2025 Stearns Way, Suite 114, St. Cloud, Minnesota 56303. 6-8/88

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**Urologist Physician** board certified-board eligible to join 23-physician multispecialty group in Winona, Minnesota. Total draw area of 40,000 population. Competitive salary offered. Interested physicians please contact: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, Minnesota 55987. 3-5/88

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**Pediatrician** to join existing two-person practice at the 23-physician multispecialty Winona Clinic, Ltd., in Winona, Minnesota. Located in the beautiful Mississippi River Valley of southeast Minnesota. The community within a 40,000 population trade area is the host of three colleges and a diverse industrial base. Send CV to: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, Minnesota 55987. 3-5/88

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**Orthopedic Surgeon** board certified-board eligible to join a 23-physician multispecialty group in Winona, Minnesota. Total patient population draw area of 40,000. Interested physicians please contact: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, Minnesota 55987. 3-5/88

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**Internal Medicine Physician** board certified-board eligible to join 23-physician multispecialty group in Winona, Minnesota, with existing nine-physician Internal Medicine Department. Total draw of 40,000 population. Competitive salary offered. Interested physicians please contact: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, Minnesota 55987. 3-5/88

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**New Ulm, Minnesota:** Family practice physician BC/BE for multispecialty clinic of 18 board-certified physicians in family practice, internal medicine, pediatrics, orthopedics, general surgery, OB/GYN, radiology, and emergency medicine. Associate physician regular visits in neurology, oncology, otolaryngology, and pathology. Other specialties in town are ophthalmology and urology. Historic city of 15,000 located 90 minutes south of Minneapolis metro area, 30 minutes from Mankato State University. Well-balanced economy between Kraft, 3M, Pantasote, AMPI, and agribusinesses. Three excellent school systems in addition to a college. Contact: Robert Stevens at the New Ulm Medical Clinic, PO Box 667, New Ulm, Minnesota; (507) 354-4101. 8-10/88

**Internal Medicine:** BC/BE internist to join internal medicine office in downtown St. Paul, Minnesota. Competitive first-year salary and benefits. Send CV to: Minnesota Medicine (819), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. 4-6/88

**Orthopedic Surgeon BE/BC** to join or practice adjacent to 17-physician multispecialty group in Worthington, Minnesota. Clinic offers liberal first-year salary, benefits, and incentive. One hundred bed community hospital adjacent to clinic. Patient service area of 50,000. Send CV or call Richard Sudmeier, M.D., or John Sieve, Administrator, Worthington Medical Center, Box 86, Worthington, Minnesota 56187; (507) 372-2921. 3-5/88

**Family Physician** needed to join group of five family physicians in St. Peter, Minnesota, population 9,000, located one hour south of Minneapolis. Contact: Doug Olmanson, M.D., or D.A. Nygard, Administrator, St. Peter Clinic, Ltd., 622 Sunrise Drive, St. Peter, Minnesota 56082; (507) 931-2110. 6-8/88

**Internal Medicine:** Carroll Medical Center is seeking a general internist to join four family practitioners and one general surgeon. Carroll Medical Center was established in 1928 and has an excellent reputation in this west central Iowa community of 10,000. We have a newer 100-bed hospital. Reasonable call schedule. First-year guarantee, paid malpractice insurance and other benefits including 4-week vacation and 2-week CME time. Please call or mail CV to: Jeffrey K. Larkin, M.D., 502 North Court Street, Carroll, Iowa 51401; (712) 792-1500. 6-8/88

**Aggressive, Board Certified Or Recently Board Eligible Internist** needed for fee-for-service, multispecialty group. New, fully equipped, 150-bed hospital with heliport. The area has excellent recreational facilities and superb family environment with a nationally recognized school system. Subspecialty support is provided under a University of Minnesota affiliation. Send CV to: Mesaba Clinic, 1814 14th Avenue East, Hibbing, Minnesota 55746, Attn: J. Brust. 3-5/88

**General Surgeon - BE/BC:** Outstanding opportunity for aggressive, young surgeon with a highly profitable, well-established, fee-for-service, multispecialty clinic. 14 physicians on staff. Ready-made practice. Unmatchable guaranteed salary first year, then ownership. New hospital. Wonderful family town with nationally recognized school system and unequalled outdoor recreation possibilities. Telephone calls will not be accepted. Send CV to: John Brust, Mesaba Clinic, 1814 14th Avenue East, Hibbing, Minnesota 55746. 3-5/88

**Family Physician** to join four others in a well-established, progressive practice serving a market of over 20,000 people. Wabasha, one of Minnesota's most historic, friendly, and beautifully scenic cities, is located on the Mississippi River and offers year-round recreational and sporting activities. Interested physicians please contact: Tom Crowley at (612) 565-4531 (collect). (R)

**Medical Patents:** Capitalize your innovative medical ideas and products into a positive cash flow. Our organization assists you in review, patenting, product placement, and product licensing or product sale. The organization includes an M.D. with multiple patent experience and a medical patent attorney with extensive experience in representing M.D.s who have licensed their medical products worldwide. For the organization's curriculum vitae, disclosure forms, and business schedules, please write to: Minnesota Medicine (822), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. 2-5/88

**Internal Medicine:** Immediate opening for two internists board certified/eligible. Join six family practitioners and two surgeons in quality medical environment. Excellent 40-bed district hospital attached by walkway. No HMOs, PPOs. Collection percentile in high 90s. Beautiful lake/forest country, Brainerd area. First year salaried, second year full corporate partnership. Call collect: (218) 546-8375 or write: Jerry Mockenhaupt, Cuyuna Range Clinic, 301 1st Street SE, Crosby, Minnesota 56441-1691. 2-5/88

**Psychiatrist:** Knoxville VA Medical Center is actively recruiting for a staff psychiatrist (full or part time). Our center has four acute general psychiatry units, chemical dependency treatment program, therapeutic living unit. If you want to work in a peaceful, relaxed community and get that hometown feeling, then Knoxville is the place for you. Excellent salary and benefits, including attractive retirement plan, 30 days' paid vacation, health and life insurance, thrift savings plan (similar to 401K), and malpractice coverage. Require licensure any state. EOE. Contact: Chief of Staff (11), VA Medical Center, 1515 West Pleasant, Knoxville, Iowa 50138; (515) 842-3101, Ext. 6006. *2-5/88

**Six-man Family Practice** group in Mora, Minnesota, seeks associate. Located 65 miles north of the Twin Cities in the heart of fishing and hunting country, we offer an excellent opportunity for professional and personal growth with expanding practice, comprehensive salary and benefit package. Contact: Larry Brettingen, M.D., Mora Medical Center, Ltd., 224-7th Street, Mora, Minnesota 55051; or call (612) 679-1340. 6-8/88

**Medical Writer:** Experienced free-lance medical writer available to ghostwrite, edit, or consult on journal submissions, grants, clinical summaries, instruction manuals, patient education brochures, research results, NDAs, and internal newsletters. Reasonable fees. Therese M. Ensley, 5245 47th Avenue South, Minneapolis, Minnesota 55417; (612) 721-4504. 3-6/88

**South Dakota:** Gettysburg, sportsman's paradise, good schools, family-oriented town. Well-equipped office, good hospital and nursing home on either side of office. Generous downside quarantee with incentive bonus, malpractice, pension plan, health and life insurance. Call or send CV to: Arthur Quance, Gettysburg Hospital, 606 East Garfield, Gettysburg, South Dakota 57442; (605) 765-2488. 4-7/88

**Physicians—All Specialties:** Excellent opportunities nationwide. We specialize ONLY in physician placement! Call Earl Czech (612) 754-2556. North Central Staff Services, Inc., 11000 Central Avenue NE, #207, Minneapolis, Minnesota 55434. 6-9/88

**Pediatrician:** Ideal opportunity available immediately. Excellent location. Benefits. Apply to: Randall Warren, M.D., or Richard Moore, Administrator, Mork Clinic, P.A., 1833 2nd Avenue South, Anoka, Minnesota 55303; (612) 421-3680. (R)

**GP/FP/EM Available** as locum tenens, weekends. Board Certified. FP. Lic. Minn. Write: Box 35132, Minneapolis, Minnesota 55436. (R)

**Needed—Family Physicians:** Immediate opportunity for one or two family practitioners to locate in growing community in northwest Minnesota. 27-bed hospital/60-bed long-term care unit attached. Clinic can be managed by hospital with guaranteed salary or by doctor with yearly guarantee. Excellent hunting and fishing area. Located near beautiful Lake of the Woods; 85 miles from Grand Forks, North Dakota; 100 miles from Winnipeg, Manitoba. Write: M.A. Bertilrud, Administrator, Greenbush Community Hospital, Greenbush, Minnesota 56726, or call collect (218) 782-2131. (R)

**Pediatric Practice for Sale:** Retiring Physician wishes to sell well-established, fully equipped, well-staffed practice. Located in a south Minneapolis suburb. Leased. For further information write: Minnesota Medicine (823), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. 1-5/88

**Wausau Medical Center** is seeking BE/BC individuals in the following specialties: cardiology, dermatology, family practice, infectious disease, obstetrics/gynecology, pediatrics, and rheumatology. Modern clinic facility located across the street from modern, 300-bed hospital. Full partnership in three years. Easy access to lakes, woods, and mountains. Write (including CV) to: D.K. Aughenbaugh, M.D., Medical Director, Wausau Medical Center, 2727 Plaza Drive, Wausau, Wisconsin 54401. (R)

**Pediatrican** seeking part-time practice opportunity starting late summer, Twin Cities area. Currently practicing emergency pediatrics and have enjoyed the combined challenge of ambulatory, trauma, and acute care, but now desire an office setting to incorporate interests in anticipatory guidance and developmental pediatrics. Please send inquiries to Minnesota Medicine (825), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. 2-6/88

**Internal Medicine** opening available in 2-person St. Paul practice. Must be BC/BQ. Busy central location with need to expand. If interested, send resume, along with phone number to: Minnesota Medicine (824), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. 2-6/88

**Bemidji, Minnesota:** Excellent opportunities for well-trained physicians. We are seeking board certified/eligible physicians in orthopedic surgery, family practice, ophthalmology, OB/GYN, and otolaryngology to join a young 22-physician multispecialty group practice located in northern Minnesota. Clinic adjacent to modern, well-staffed and well-equipped hospital. Competitive salary guarantee plus incentive first year and excellent benefits. An excellent opportunity for a physician to enjoy practice in the center of hunting, fishing, and clean air. Please respond with CV to: C.C. Lowery, Administrator, Bemidji Clinic, Ltd., 1233 34th Street NW, Bemidji, Minnesota 56601; (218) 751-1280. (R)

**Psychiatrist:** An opening exists for a general psychiatrist with Hennepin Faculty Associates, Hennepin County Medical Center. Benefits are generous and salary is open and negotiable. Requirements are: BC/BE psychiatry, Minnesota licensure and potential for appointment (non-tenure track) in the Department of Psychiatry, University of Minnesota. Position largely involves inpatient care of acutely ill patients at HCMC and would be in association with over a dozen other full-time psychiatrists engaged in clinical care, teaching, research, and forensics. Contact: William W. Jepson, M.D., Chief of Psychiatry, Hennepin County Medical Center, 701 Park Avenue South, Minneapolis, Minnesota 55415. Phone: (612) 347-5764. The University of Minnesota and Hennepin County Medical Center are equal opportunity educators and employers and specifically invite and encourage applications from women and minorities. (R)

**Urgent Care, Minneapolis:** Urgent care physicians (full-time), that are BC/BE in their specialty area, needed to join the Department of Urgent Care of a 270-physician multispecialty medical clinic in desirable Twin Cities area. Our medical clinic is a highly reputable, well-established clinic that has been in existence for over 36 years. The clinic serves both fee-for-service and prepaid (HMO) patients. Salary and benefits are highly competitive. Send CV and letters of inquiry to: Patrick Moylan, Park Nicollet Medical Center, 5000 West 39th Street, Minneapolis, Minnesota 55416. *1-5/88

**Physician** needed to provide primary care. Position is with a 637-bed regional treatment center that provides treatment for individuals with chemical dependency problems/psychiatric and developmental disabilities. Competitive salary with excellent fringes including malpractice insurance. Limited call. Located 90 miles west of Minneapolis/St. Paul with abundant outdoor recreational opportunities. Excellent schools. Call or write (include CV and references): Larry Olson, M.D., Medical Director, Willmar Regional Treatment Center, Willmar, Minnesota 56201; (612) 231-5100. An equal opportunity employer. 2-6/88

**Physician** sought for ten-person multispecialty clinic. Financial package competitive. Outdoor hunting, fishing wonderland! Excellent lifestyle, practice, and opportunity. Interested individuals should contact: Nephtali Matta, Administrator, Medical Associates Clinic, 772 East Dakota, Pierre, South Dakota 57501; (605) 224-5901. 3-7/88

**Family Physician:** BC/BE to join 17-member multispecialty clinic in Worthington, Minnesota. 100-bed hospital. Level II nursery. Need interest in primary OB. OB/GYN and peds support available. Beginning salary $70,000-90,000 depending on experience. Benefits include paid malpractice, health, life and disability insurance. Profit sharing and liberal vacation also. Contact: D. Anderson, M.D., or J. Sieve, Administrator, Worthington Medical Center, 508 10th Street, Worthington, Minnesota 56187; (507) 372-2921. 3-7/88

**Secluded Northwest Wisconsin Retreat:** 40 acres, 550 ft. frontage on uninhabited 30-acre lake. Beautiful 6-sided, 2-story, 3-bedroom, full basement custom, modern home. Complete privacy, wildlife, and large pines. For more information write: Buck McMinn, PO Box 296, Chelan, Washington 98816; (509) 682-5204. 2-6/88

**Physician:** Vacancy exists for a staff physician in our Chemical Dependency Center. Board certified or board eligible in psychiatry, internal medicine, or family practice preferred. Position offers: a competitive salary, basic 40-hour week with limited on-call responsibility, malpractice coverage, 30 days' paid vacation, and other excellent fringe benefits in a JCAHO-accredited, progressive 802-bed medical center, with 72,000 outpatient visits per year, adequate staffing including physician extenders, and research opportunities. The city of St. Cloud, Minnesota, and the surrounding area boast of high-quality family living for residents who enjoy clean air, a wide variety of four-season outdoor recreational opportunities, excellent hunting and fishing in the "Land of 10,000 Lakes" and outstanding educational facilities, including two universities and an excellent college. Located between the Twin Cities of Minneapolis/St. Paul and northern lake country. Financial assistance to defer cost of relocation. Equal opportunity employer. Write or call: LaBelle Ruehle, Personnel Service, Veterans Administration Medical Center, 4801 8th Street North, St. Cloud, Minnesota 56303; (612) 252-1670, ext. 241. *2-6/88

**Diagnostic Radiologist:** BC/BE radiologist needed to join busy 10-member department of a 280-physician multispecialty group practice in desirable Twin Cities area. This outpatient practice opportunity involves a large case load of general radiology including mammography, ultrasound, and nuclear medicine. Please send CV and letters of inquiry to: Patrick Moylan, Park Nicollet Medical Center, 5000 West 39th Street, Minneapolis, Minnesota 55416. 1-5/88

**Internist:** Excellent opportunity for BC/BE internist(s). Integrated health system in fast-growing desert community. Thirty-five minutes from Palm Springs. Compensation plan which includes high guaranteed base and incentive component. Send CV to: Delta Hi-Desert Medical Group, 915 Camino Del Mar, Del Mar, California 92014. 1-5/88

**Family Practice Physicians,** full- and part-time, are needed to join existing practices or start new ones. Opportunities exist in western Minneapolis suburbs and outstate Minnesota locations. Offered through a progressive health care system affiliated with a western metropolitan hospital. For more information contact: MHC Associates, PO Box 650, Minneapolis, Minnesota 55440; or call Ann Naas (612) 932-6208. 1-5/88

**Family Practice:** Thirty-four-physician multispecialty group conveniently located between Chicago and Milwaukee. Well-equipped clinic offering salary guarantee with incentive bonus, excellent fringe benefits, and early ownership. Please send current CV to Roger D. Lacock, Administrator, Racine Medical Clinic, 5625 Washington Avenue, Racine, Wisconsin 53406. 3-7/88

**Duluth, Minnesota:** Due to retirement, immediate opening for emergency physician to join 150-physician multispecialty group as staff physician at St. Mary's Medical Center. Must have post-graduate training in primary care or emergency medicine with current ACLS/ ATLS certification. Salary above average for region. Excellent benefits plus bonus possibilities. 22,000 visits per year. Regional cardiac and pediatric center provides a full complement of tertiary services to the region as well. Duluth offers all the amenities of a big city without the hassles. Unsurpassed outdoor recreational opportunities. Respond with complete CV to: Stan Salzman, Executive Director, The Duluth Clinic, Ltd., 400 East Third Street, Duluth, Minnesota 55805; (218) 722-8364. 2-6/88

**Family Practice:** Family practice clinic is seeking a board certified/ eligible family practitioner to join its two clinics located in north suburbs of Minneapolis and St. Paul. The clinics are currently staffed by six family practitioners and a physician's assistant. Assume an existing general practice in affiliation with expanding practice. Anticipated starting date is July 1, 1988. Competitive salary and benefits. Please send CV to: Greg Gunderson, 3900 Stinson Boulevard NE, Minneapolis, Minnesota 55421. 1-5/88

**Robert William James & Associates** has been providing executive and medical search services to client organizations since 1977. We are currently seeking physicians in virtually all specialty areas for health care clients in the midwest, south, southeast and northwest parts of the country. All fees are paid by our clients. All inquiries are handled in a professional and confidential manner. For further information, contact: John S. Shonyo, CPC, Manager, Robert William James & Associates, 2360 North Broadway, Rochester, Minnesota 55904; (507) 285-9270. Offices located nationwide. 2-6/88

**St. Cloud—** Minnesota's fastest growing city—family practice physician, 2 pediatricians, 2 ob/gyns, BE/BC to join supportive primary care staff in a growing, successful, and innovative prepaid practice. New clinic facility. Full range of fringe benefits (competitive salary, liberal vacation, two weeks' education leave, retirement fund, etc.). Contact: Gary Strandemo, M.D., Central Minnesota Group Health Plan, 1245 15th Street North, St.Cloud, Minnesota 56303; (612) 253-5220. EOE. (R)

**Family Physician:** Dynamic 13-physician, 3-office, single-specialty practice in northwest Minneapolis suburbs seeking additional associate, BE/BC; OB available. Competitive salary, full benefits, reasonable call and hospital rounds schedule. Contact: Dr. Ken Kephart, Northwest Family Physicians; (612) 476-6776. (R)

**Internist** with practice or 2-person internal medicine group to join internal medicine group in Downtown Minneapolis associated with Abbott Northwestern Hospital. Call (612) 333-5125. 1-5/88

**Family Medicine:** Outstanding, diversified family practice opportunity in attractive riverfront community offering the support and resources of a major group with the autonomy of private practice. Competitive salary with productivity bonus and extensive benefits package along with paid interview and relocation expenses. Call: Robert A. Douglas, M.D., 1-800-327-1585. *1-5/88

**Family Practice:** Opportunities available in North Dakota and Northwestern Minnesota. Outstanding opportunities with a large multispecialty group seeking physicians for several divisional sites. Each available position offers a full range of family practice. Several with on-site subspecialty support. Competitive starting salaries and excellent benefit package. For more information, send CV to: John L. Weir, Associate Administrator, Dakota Clinic, Ltd., Box 6001, 1702 South University Drive, Fargo, North Dakota 58108; or call (701) 280-3381. *3-7/88

**Minneapolis:** BC/BE general internists needed to join the Department of Internal Medicine of 280-physician multispecialty medical clinic in desirable Twin Cities area. Main center and branch office practices available. Salary and benefits are highly competitive. Send CV and letter of inquiry to: Robert Lohr, M.D., Park Nicollet Medical Center, 5000 West 39th Street, Minneapolis, Minnesota 55416. *2-6/88

**Indiana—Family Practitioners:** Attractive solo practice opportunities with excellent and proven income potentials for up to three BC/BE family physicians in this north-central Indiana county. Modern, attractive office settings available for immediate occupancy. Located within 0-20 miles of a full-service, JCAHO-accredited hospital. Access to many outdoor recreational activities and within easy driving distance of three major metro areas. Excellent start-up arrangements available. Reply with CV to: Richard H. Mynark, Administrator, Pulaski Memorial Hospital, 616 East 13th Street, Winamac, Indiana 46996; or call (219) 946-6131. 2-6/88

**General Surgeon:** Rural 28-bed hospital is seeking board eligible general surgeon. New, well-equipped facility located in the Black Hills. Stable community with variety of recreational activities available. Excellent opportunity to build practice. Contact: Evonne Ulmer, CEO, Weston County Memorial Hospital & Manor, 1124 Washington Boulevard, Newcastle, Wyoming 82701; (307) 746-4491. 2-6/88

**Pediatrics:** Marshfield Clinic, a 250-physician, multispecialty private group practice, is seeking a board certified or eligible general pediatrician to join its expanding regional center in Chippewa Falls. Chippewa Falls is a community of 15,000 people located in beautiful west-central Wisconsin with a wide range of recreational, educational, and cultural opportunities easily accessible. The clinic is adjacent to a 110-bed JCAHO-accredited hospital. Competitive salary and fringe benefit package. Send CV and references to: Mr. David Draves, Director, Regional Development, Marshfield Clinic, 1000 North Oak Avenue, Marshfield, Wisconsin 54449. Or you may call collect at (715) 387-5376. *1-5/88

**Faculty/Practice Position:** Unique opportunity to teach and practice. The Davenport, Iowa Family Practice Program is seeking a residency-trained family physician to join its faculty. This position offers the opportunity to practice and teach residents in either the Davenport office or a satellite clinic located 20 miles from Davenport. Obstetrical experience and interest preferred. Salary is competitive and commensurate with experience. If interested in this stimulating opportunity, please direct inquiries and a CV to: Kim P. Petersen, M.D., Program Director, 516 West 35th Street, Davenport, Iowa 52806. 2-6/88

**The University of Minnesota School of Dentistry** invites applications for Research Fellow (DDS required) and Research Associate (PhD required) positions. Applicants must have at least two years of research training. Positions will provide research expertise in planning and execution of research design and methodology. The University of Minnesota is an equal opportunity educator and employer and specifically invites and encourages applications from women and minorities. Send resume, indicating areas of research training to: Dean Richard P. Elzay, University of Minnesota School of Dentistry, 515 Delaware Street SE, Minneapolis, Minnesota 55455. *1-5/88

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JUNE 1988

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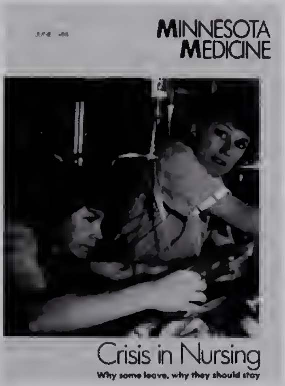

## Cover Photo

**NURSING** RNs Diane Voss and Karen Block are shown on the cover as they work in Hennepin County Medical Center's surgical intensive care unit.

Our cover story doesn't feature these two nurses, rather, it's about nursing itself — about opportunity and disappointment, satisfaction and frustration.

Photo by Craig Lassig.

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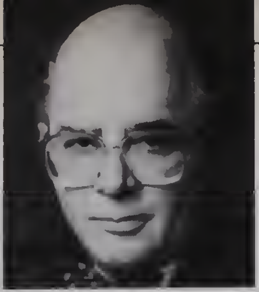


RICHARD L. REECE, M.D.

## EDITOR'S NOTEBOOK

# Minnesota Medicine, Leadership, and Change

How should physicians use *Minnesota Medicine* in a chaotically changing world? Of what use is this journal to you?

This publication ought to serve as a physician's leadership manual in a dramatically shifting environment. The issue you now hold in your hand contains examples of material you might use to help you master chaos in a competitive medical world.

In his new book, *Thriving on Chaos*, Tom Peters, who also coauthored *Search for Excellence* and *A Passion for Excellence*, says leaders who want to learn to love change must do ten things:

**1.** Leaders must master paradox, i.e., they must foster internal stability by demanding constant change. One way of doing this is for the leader to be constantly "out and about"—on the frontlines of change.

Alvin Schultz, M.D., the subject of our first interview, exemplifies this trait. In his position as vice president of medical affairs at Health One and as president-elect of the Hennepin County Medical Society, he is almost always "out and about"—visiting with the medical staff of Health One hospitals or meeting with practicing physicians.

**2.** Leaders must develop an inspiring vision. To assume leadership, you ought to have a clear understanding of what your organization is about. This sense of "vision," I regret to say, is what has permitted HMOs to outstrip the fee-for-service sector in growth.

As you read our second interview, with Sheila Leatherman, chairperson of the Minnesota Council of HMOs, you can clearly see her vision: that HMOs and management systems will rationalize health care delivery and bring more consistent results. As a practicing physician, you may not agree that this vision is "inspiring," but it is a vision she articulates clearly and forcefully. We need the same kind of clear vision for the fee-for-service sector.

**3.** Leaders must manage by example. To lead by example, you must constantly use your calendar as your main leadership tool, i.e., people will judge you by the way you spend your time—not by what you say.

One way we've tried to lead with the "new" *Minnesota Medicine* is by interviewing the principal players or writing articles about them. Our freelance article in this issue, "Crisis in Nursing: Why Some Leave, Why They Should Stay," is an example of leading by example. We believe nurses are in crisis, and we believe they have good reasons for their discontent. So we went out and talked to them.

**4.** Leaders practice visible management. The rule for an effective leader is this: You are out of tune with the times if you are in the office more than one-third of the time.

As the editor of *Minnesota Medicine*, I spend a lot of time in medical staff rooms, in physicians' offices, and jawing with people before and after talks. I know of no other way to get a "feel" for the environment. I also like to get outside the Twin Cities to find out what's cooking outstate. In the next issue, we'll feature two interviews with physicians from Albert Lea and Hibbing.

**5.** Leaders pay attention, i.e., they listen more. To be an effective leader, you have to smell the winds of change early. The only way to do this is by listening closely to people. From Alvin Schultz's interview, for example, you pick up clearly that young physicians are leaving Minnesota because it's an undesirable place to practice. And would-be physicians, aware of the unhappiness of practicing physicians, are not entering medical school in the first place.

**6.** Leaders must defer to the front line. For physicians to be effective in the health care setting, we must learn to make our office staff "heroes," to honor them as the people who make the office go, and to give them the power to act on their own ideas.

**7.** Leaders must delegate. This is hard for many doctors and many doctors' organizations to do. It's tough for many of us to really "let go." But in a sense, you, the members of the Minnesota Medical Association, have let *Minnesota Medicine* pursue its own agenda. You will "advise" us, but you won't dictate to us. But we share a vision—to publish something that will help readers cope with and understand the dynamics and the pain of the medical system. Read closely the article in this issue "Consumer Use and Satisfaction with Health Services under Different Insurance Plans in the Minneapolis/St. Paul Area." It will give you insight into what patients think about you and HMOs.

**8.** Leaders must pursue "horizontal" management by bashing bureaucracy. To function in mod-

**Notebook** *to page 342*

# A Prismatic Leader

**REECE:** *Dr. Schultz, you're a man who is currently wearing at least five hats—senior vice president of medical affairs at the Health One Corporation; president-elect of the Hennepin County Medical Society; regent of the American College of Physicians; member of the Board of Directors of the Council of Medical Specialty Societies; and lastly, retired chief of medicine at the Hennepin County Medical Center, one of Minnesota's premier teaching centers.*

*In the course of this interview I would like you to share your view of the world through these multiple prisms. I trust you won't mind if I classify you as a prismatic personality, rather than a charismatic personality.*

*Let's start with your newest position, that of senior vice president of medical affairs at Health One Corporation. Could you give us an idea of the scope of what you do and the mission of that corporation?*

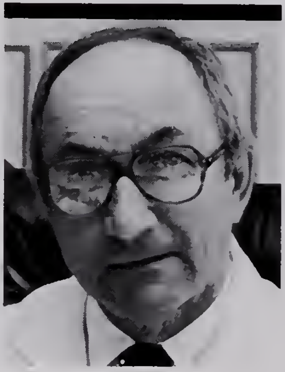
**SCHULTZ:** The medical affairs division at Health One Corporation is brand new. It doesn't exist in many corporations. The intent was to bring physicians into decision making at a corporate, hospital, and institution level. I was given the broad mandate of bringing physicians into the decision-making process.

This is a challenge, but it is also a great opportunity to shape an evolving system. I was at a point in my career where I had great interest in this. I trained a lot of young internists, and I have two sons in medicine. I feel an obligation to their future. My career is at its tail end, so I am not so focused on what's good for me, but I would like to leave a mark, at least locally, on the health care system.

**REECE:** *What do you hope to contribute?*

**SCHULTZ:** I want to create an environment that's comfortable for physicians, an environment so attractive that it will bring good people into the profession. I also want to take care of the public interest. Conflicts exist between a bottom-line mentality and the

**Schultz** *to page 383*



ALVIN L. SCHULTZ, M.D.

*I interviewed Dr. Alvin Schultz in my office. We sat across a highly polished table. As we talked, the sheen mirrored, transfigured, and distorted his face.*

*Suddenly, the image of Dr. Schultz as a highly refractive prism loomed in my mind. This prism radiated light rays from every surface, from a thousand angles. Maybe light bouncing off his trifocals and ricocheting off the table created this phantasmagoric image. Or perhaps it simply sprang from his reflections on his multifaceted career.*

*Whatever the image source, his face had the glow, his voice the authority, and his eyes the sparkle and twinkle of a wise and happy man who had seen the light and knew the angles.*

*He had earned his happiness and his wisdom.*

*Here was a man who had retired from his position as chief of medicine at Hennepin County Medical Center. He was now in hot pursuit of a second career as the senior vice president of medical affairs at Health One, a large multihospital corporation, and he was enjoying being back in the trenches of practice, or at least in smelling range of them, as president-elect of the Hennepin County Medical Society.*

*Like any academic with an ounce of investigative zeal and a pound of curiosity, he was happy rocketing up other learning curves and sweeping down into valleys of reality. Besides, he was contributing to his profession again, in a renewing and vital way, bringing knowledge and executive skills from his previous academic and political activities to bear on tough new problems.*

*He was sad, too. Not for himself, but for his two physician sons and those following them into the profession. It saddened him that medicine had become "fragmented" and "fragile." Still, he remains optimistic, for as any good prismatic physician knows, you can always bend rays of light to reflect at better angles.*

# A True Believer

**REECE:** *Why don't we begin with your background. Where were you educated, what were your positions before your current job, and how long have you been in the Twin Cities?*

**LEATHERMAN:** I've been in the Twin Cities for about ten years. I came here when my husband came to do an internship, and we have stayed on. I have a BA in anthropology from Tulane University and a master's degree in social work from the University of Arkansas. I started my career in clinical social work and moved out of that and into program evaluation and quality assurance after a couple years. For the last three to five years before joining the HMO industry, I worked for the Veterans Administration in national positions designing quality assurance systems, consulting with hospitals and medical centers across the VA system. I was also involved in designing systems and ways to allocate resources to the various VA hospitals.

SHEILA LEATHERMAN

*I've learned to listen closely to true believers. Because of their certitude and conviction, they know what they want to say. And they say it well.*

*Sheila Leatherman is a true believer. As vice president of medical affairs of Partners National Health Plan, which manages MedCenters Health Plan, and as chairperson of the Minnesota Council of HMOs, she believes in HMOs, and she believes that through them you can manage health care for the common good of all.*

*She has high intelligence, a strong philosophy, and a true mission. She has a well-honed message, as you will quickly see from her remarks in this interview. She articulates a strong philosophy: She believes deeply that the present "restructuring" of the "health care industry" by HMOs and other managed care entities will "rationalize" clinical medicine. And, by bringing about this "rationalization," she believes, managed systems will achieve more consistent and excellent care and more "quality" for each dollar spent. Her sense of mission roots itself in the belief that economic, technological, and decision-making "systems" will empower managers to do the right things for health care and the patient.*

*Because of these deeply held beliefs, she is uneasy about the current medical market turbulence in the Twin Cities, about the financial future of Twin Cities HMOs, about public and physician misunderstanding of the true place and purpose of HMOs, and about the unstable "relationships" between major participants in the competitive medical marketplace. In her view, I gather, HMOs are the brokers, not the driving force or engine, of change. Therefore, we shouldn't consider HMOs the culprits when things go wrong.*

*Listen to her closely. You will find, as I did, room for common ground of understanding. Her line of reasoning compels me with its logic. But the habits of my heart still make me favor the prerogatives of a physician's individualism and the physician-patient relationship over responsibilities to meet the corporate good, or the social good, as seen through corporate eyes.*

**REECE:** *Do similarities exist between the Veterans Administration system and the HMO system?*

**LEATHERMAN:** Yes, but they are not usually apparent to the casual observer. However, there are similarities: HMOs are broad based; they're not just insurers or brokers of dollars as some people think. Also, HMOs, like the Veterans Administration, have responsibility for designing health delivery services. With that responsibility comes figuring out how to finance services, how to evaluate the quality, and how to provide appropriate access to the eligible population.

**REECE:** *You now have two positions; one is vice president of medical affairs for Partners National Health Plan, and the second is chairman of the Minnesota Council of HMOs. I'd like to take these in order. First of all, would you describe the scope of Partners National Health Plan? How many HMOs or PPOs does it run? Where are its headquarters?*

*continued*

LEATHERMAN: Partners National Health Plan is headquartered in Texas, in a suburb of Dallas. It is the joint venture between VHA Hospitals of America and the Aetna Insurance Company. It has 23 HMOs, some owned or partially owned and some with management contracts. There are 67 PPO networks in 23 states. Together, the HMOs and the PPOs have about one million members.

REECE: *That places you as one of the five largest organizations of this type in the country, doesn't it?*

LEATHERMAN: I'm told we are the sixth largest.

REECE: *You're a large national system and your business headquarters are in a Dallas suburb. But your medical affairs department is in Minneapolis, is it not?*

LEATHERMAN: Right.

REECE: *And what are your duties? Could you give us a brief job description?*

LEATHERMAN: With the responsibilities for the large number of HMOs and PPOs, there was a need to establish a focus on medical management systems. By that I mean setting up quality assurance systems, establishing utilization management programs for the HMOs, and also making sure consistent and appropriate medical policy is in place across all the HMOs. Our responsibility has been to develop those programs and to consult with the individual HMOs and PPOs to make sure that they're implemented properly.

REECE: *Does the rest of the HMO universe look to the Twin Cities as a barometer of what's to come?*

LEATHERMAN: Yes, which is both fortunate and unfortunate. On the positive side, the HMO industry in Minnesota has a long history and a successful one as judged by growth and stability, notwithstanding current issues, across the years. Also, Minnesota HMOs are highly regarded for their leadership in such issues as design of quality measurement systems. On the other side are the HMO controversies in Minnesota, most of which stem from the fact that HMOs in Minnesota are no longer the alternative deliverer of health care but rather the mainstream of health care. In Minnesota, we are facing some problems first, way ahead of the rest of the country. And the rest of the country is looking at us with some interest and anxiety.

**"HMOs are no longer alternative delivery systems—they are mainstream."**

REECE: *What are these issues that are causing HMOs such anxiety?*

LEATHERMAN: The issue of economics and financial stability is the one that is clearly prominent these days. We need to back up to get a historical perspective. As I said, HMOs are no longer alternative delivery systems—they are mainstream. HMOs have over 50 percent of the metro population. Also, HMOs have played a critical, and at times painful, role as the catalysts in health care issues.

The issues that gave rise to HMOs in the early '70s were in my estimation threefold. One, there was a concern about ever-escalating costs. Two, there was a concern about quality and how to monitor and intervene when there were quality problems within the professional community. And three, there was the issue of access, making sure the various needy populations had access to health care.

HMOs have played a vital role in rationalizing all three of those functions. However, because we have been the ones to deal in issues of cost and quality and access, we have played a role that at times has met up with conflict and lack of congruence among all the affected parties.

REECE: *What is the current financial status of HMOs in Minnesota?*

LEATHERMAN: As you've read in the papers, a number of HMOs have incurred losses for the second year running. I want to correct a theme that is all too rampant these days: that the financial difficulties of HMOs are due to what has been termed "price wars." That is clearly a unidimensional look at the issue, and it fails to take into account that HMOs have been responding to the pressures and the desires of our buyers—the commercial buyers and government buyers who wish to constrain the cost of health care.

So the financial situation of the HMOs has been a troublesome one, which is obvious by the losses we've incurred. But I think it's going to turn around. It's important also to note that HMOs are not alone in this financial difficulty. We are just part of the down cycle, experienced also by indemnity insurers, for instance Blue Cross and Blue Shield.

REECE: *So you're saying the purchasers' drive to cut costs has contributed a great deal to the losses.*

LEATHERMAN: Absolutely. Both commercial and government purchasers have reached a point where they're not just simply questioning large price increases, but they are outright intolerant and in some cases, they are rejecting significant price increases from HMOs or insurers.

REECE: *How is this purchaser-HMO tug-of-war on prices going to play out in 1988? The conventional wisdom is that HMO premiums are going up 15 to 30 percent.*

LEATHERMAN: That's the conventional wisdom. The HMO price increases we'll see will still be lower than what occurs in the indemnity, fee-for-service side of health care. For that reason, I think HMOs will continue to successfully provide quality at affordable prices.

Premium increases are inescapable because of three factors. One is that the medical consumer price index continues to rise at a rate way beyond the general CPI. It is, in fact, the medical CPI, including professional charges, that constitutes HMO costs. Second, although the buyers, both government and corporate, want to ratchet down prices, they continue to have ever-increasing expectations of access and benefits. In a community like Minnesota, where there is a high community standard for access to medical technology, HMOs have to be able to set prices at a level to provide that. Third, we are operating in a state where the public expects comprehensive coverage and the legislature mandates benefits. Again, HMOs must set prices at a level that will allow them to provide those benefits.

**REECE:** *What is the significance of the three HMO laws passed this session by the Minnesota Legislature? Specifically, how do they affect the finances of HMOs?*

**LEATHERMAN:** The legislation regarding HMO insolvency and reserve requirements will have the greatest impact. The HMO Council of Minnesota was very supportive of the need for insolvency legislation. We recognize that, as a mainstream industry delivering health care to 1.2 million people in Minnesota, we have a responsibility to make sure that we have financial stability. Insolvency legislation is one way of doing that.

It's important to remember how we arrived at this point: The perception of need for insolvency legislation exists because HMOs, for the most part, did not have large reserves. We did not have large reserves because we have operated as nonprofits, as required by the state of Minnesota. Instead of building large financial reserves, we kept putting the money back into services. That was our mission as nonprofit HMOs. We understand the need for functioning as nonprofit HMOs, but we also see the need to build reserves, and we will do so. That legislation provides a reasonable phase-in time that will allow us to build required reserves without being unduly wrenched financially.

**REECE:** *You have five years to build reserves. Is that right?*

**LEATHERMAN:** Almost six years. The other important thing to note is that the legislation, as it was passed, gives Minnesota the most comprehensive reserve requirement in the country. That's appropriate, considering that we have the most membership.

**REECE:** *How would you describe the current public mood toward HMOs, and how is that mood reflected in the recent HMO legislation?*

**LEATHERMAN:** The recent HMO legislation is oriented to protect members or individuals when an HMO pulls out of a geographic area. The council supported that

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kind of legislation, which makes sure that when an HMO is going to withdraw services from a part of the state, that it's obliged to provide "conversion coverage," to guarantee that the individual member still has access to a reasonably priced benefits package for a period of time.

That legislation holds HMOs to a higher standard of performance than is applied to indemnity insurers or PPOs. But it does serve to stabilize the relationship between the health care deliverers and the individual.

This issue of pulling out of an area is not just a problem for HMOs; physicians have a responsibility there as well. HMOs can provide services to a population only if the physicians are willing to contract with HMOs.

REECE: *You've just touched on a very thorny problem, that is, when physicians don't want to deal with the HMOs. I suppose that's their choice. Nevertheless, patients may suffer. On the other hand, physicians can't stay with HMOs if financial conditions are intolerable, if they can't even meet overhead. What do you think the attitude of physicians wishing to be independent ought to be toward HMOs? How can we make this a more constructive relationship?*

LEATHERMAN: Let me speak to the more narrow view of that issue. All of us, not just the HMOs, but also the physicians in a community must be confident that when they sign a contract with an HMO, that they try to make the very best effort to continue that relationship with the HMO. That's not to say that some other factors might not intervene, causing the physician to decide it's not a prudent business decision. But when HMOs do move into communities, they often are embraced by the community. People like the idea of HMOs, and they convert their coverage to become members of the HMO. It is really a difficult issue when a physician discontinues the contract or the HMO pulls out, because it leaves people in turmoil. They've lost, in some cases, a set of health benefits that they were used to or have developed a need for.

REECE: *Could you explain, as chairperson of the Minnesota Council of HMOs, what your organization is doing, when it was formed, and what its mission is?*

LEATHERMAN: The council began meeting as a group of CEOs of HMOs in late 1985 and became a council in 1986 when it elected officers and adopted bylaws. The council's mission is to work together as a collection of HMOs. Every HMO in Minnesota has elected to join to address issues of concern to us and to the community. This means that we have worked together on legislative efforts over the past several years. For instance, this year we worked actively as a council with the Department of Health and with the Legislature to come up with mutually acceptable legislation.

**"HMOs have become the target and are perceived as the culpable party."**

We also have worked with the community to try to identify and respond to requests for data from HMOs, to try to develop quality measurement systems, and more recently, to pursue a proactive communications and public relations strategy. We want to assure the community and our members that HMOs remain strong despite the current financial difficulties.

REECE: *It seems to me in the last two years that we've switched from a climate of hospital and physician bashing to HMO bashing. What's gone wrong?*

LEATHERMAN: HMOs have become, unfortunately, the natural target in the last several years. Again, I think this relates to the fact that HMOs are no longer the interesting, experimental, and alternative delivery systems. Hospitals, physicians, and all other providers or purveyors of health care see HMOs as having the financial clout, either by controlling the premium dollar and/or by being able to direct market share, that is, by bringing patients into hospitals and physician offices.

Therefore, as the economics in Minnesota have become increasingly difficult for all concerned, not just HMOs, but for individual physicians and hospitals, HMOs have become the target and are perceived as the culpable party.

HMOs are the brokers of the relationships among all the parties. We're in a unique pivotal role in that we have contracts with the physicians and the hospitals and we also hold the contracts with the buyers. It's very natural that each party, with its own hopes, expectations, and anxieties, is trying to communicate through the HMOs.

REECE: *How do you view the near future?*

LEATHERMAN: I view the near future as a challenge, but I can sincerely say I view it with confidence. The issues we faced the last several years have focused our attention on what needs to be done for the future and to stabilize the present.

I want to talk about some tasks that need to be undertaken if we are going to have a positive future, not just for the HMOs, but for physicians, hospitals, and the public.

To begin with, we need to stabilize relationships in the community.

REECE: *Which relationships?*

LEATHERMAN: All the relationships. Relationships among physicians, clinics, hospitals, HMOs, and insurers are all in a state of acute flux. This flux stems from the dynamics of consolidation, competition, and financial incentives. We must work to stabilize these relationships, or the fluidity of the situation will disrupt health care, and the real victim will be the individual health care consumer.

REECE: *A vivid example is that four Minnesota HMOs were compelled to drop 26,000 seniors. Is that the kind of fluidity we're talking about?*

LEATHERMAN: Yes. That fluidity has been difficult for all of us. It results from the economics of providing health care to the senior citizen Medicare recipients. Minnesota HMOs have played a leadership role for seniors and will continue to do so. We are actively working with the federal government, HCFA, as well as legislators, to try to rectify the financing so that adequate dollars will come into Minnesota for HMOs to provide health care services to Medicare recipients.

**REECE:** *Other than having an open discussion, like you and I are having now, how do we stabilize these relationships with HMOs and physicians?*

**LEATHERMAN:** That's the second element I wish to speak of. Those relationships will stabilize with more adequate and predictable financing. Financing is the responsibility not just of the HMOs but also health care buyers. The consumers and corporations need to understand the dynamics and sensitivities as well as the federal government's role in providing dollars for the Medicare beneficiary. It has to be said that without adequate financing for the system, relationships will remain unstable and, in some cases, contentious.

**REECE:** *How do we contain the medical technology beast, which is on the loose, and foraging and pillaging for more money. People are demanding more technology and hospitals and physicians have to supply it to satisfy their consciences, satisfy patients, and keep their markets. Do you have any thoughts on reining in this beast?*

**LEATHERMAN:** I agree it's a hard issue. From the HMO industry perspective, I would say that HMOs should not be in the position of setting the standards for access and use of medical technology. That should be up to the professional community. Then we simply assure that the dollars are there when there is real medical need.

**REECE:** *And what should the professional community do? Set the standards for who gets this technology?*

**LEATHERMAN:** No. It's up to the professional community, the legislative community, and society at large. It really is the issue of who's going to make the tough decisions.

**REECE:** *But HMOs shouldn't be portrayed as the whipping boy that's rationing technology?*

**LEATHERMAN:** Absolutely not. It would be inaccurate to say that we are doing so now, and it would be inappropriate for us to do so in the future.

**REECE:** *As you travel around the country, what do you find Minnesota is known for in the HMO community? How do your colleagues in the HMO industry regard Minnesota?*

**LEATHERMAN:** In two ways. First of all, Minnesota is considered the benchmark for the HMO industry and for how HMOs and the professional community are going to work out some of these critical issues. On the positive side, the HMOs in Minnesota are regarded as leaders in terms of monitoring and measuring quality. We are required to do so under the state health department and have gone considerably beyond the minimum requirements to some very innovative approaches that are emulated around the country.

**"Minnesota HMOs are regarded as leaders in the whole area of quality measurement."**

**REECE:** *And what are those innovative efforts for which Minnesota HMOs are held in such high esteem?*

**LEATHERMAN:** There are a number of different ones. Blue Cross and Blue Shield is working on a methodology called Small Area Variation Analysis, examining different patterns of utilization and asking whether there's justification for the differences.

MedCenters Health Plan has a two-year $400,000 grant from the John A. Hartford Foundation in New York City and is working with the Park Nicollet Medical Foundation to design an epidemiological model of quality assessment that will monitor indicators of quality, match them with resources used, and tie those two with outcome measurements for the large, almost 300,000-member HMO population.

Another reputed activity and one that's being emulated is something called the Minnesota Project, a collaborative effort of three HMOs—Share, HMO Minnesota, and Group Health—which are working with the state health department to put together a quality monitoring system that uses certain diagnoses to identify inpatient admissions that could be associated with questionable ambulatory care. That particular methodology is being adopted by HMOs around the country, and it's also being incorporated into the PRO methodology nationally for Medicare risk contracts.

Those are just a few examples, but certainly, Minnesota HMOs are regarded as leaders in the whole area of quality measurement.

**REECE:** *As Paul Ellwood is fond of saying, prepaid competitive health care with restructuring of the system sometimes produces "messy endings"—endings for which none of us have neat or pat solutions; endings which hurt all the major players—purchasers, patients, hospitals, physicians, and HMOs—at one time or another; endings which create "fluidity" and "uncertainty."*

*And, with those endings, I am ending this interview.* ■

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# Health Care in Japan

*Koichi Goto, M.D.*

**Editors Note:** Koichi Goto, a thoracic surgeon for 12 years at Seirei Hospital in Hamamatsu City, Japan, spent the last year in Minnesota studying our state's long-term care programs and the U.S. health care system. He returned to Japan last fall with some ideas about what works and what doesn't. Here, he shares some interesting comparisons between the U.S. and Japan.

Efficiently delivering good, low-cost health care is a great task for Japan. Despite efforts to control costs, medical expenses are rising, in part because of high-tech medicine. Moreover, diseases are becoming more complicated, shifting from infections to chronic illnesses that need long-term and sometimes expensive treatments. Health care costs tend to inflate even when economic growth slows down. Adjusting to patient demands while keeping costs low is a big dilemma for medical experts and the government. Both Japan and the U.S. have come up with many ideas to help stop the inflation monster. Some of them are working; others are not.

In Japan, where all people are covered by a socialized health care system and a fee-for-service reimbursement system, medical cost inflation does not seem as serious as in the United States, where health care costs are skyrocketing. But we, too, are facing the highest medical inflation in our history, due to a developing economy and technology. For example: For many years, the cost of medical care rose more than 15 percent each year, peaking at 36.2 percent in 1974. In 1983, the cost rose 4.9 percent, far more than the consumer price index, while in the U.S., it rose 6.4 percent in the same year. The cost of medical care in 1983 accounted for 6.4 percent of Japan's GNP, roughly half the U.S. level, and was 14,548 billion yen (about $97 billion), which is one-fourth the U.S. cost. Per person, medical spending in Japan was about one-third the level of U.S. spending in the same year. The Japanese government is getting worried and has adopted many new regulations to stop the upward trend.

Since 1961, Japan has been operating a special health care system whereby every person is covered by some form of medical insurance. Everyone is required to hold some type of insurance, which covers all services, from operation fees to hospital meals. Every insured person is to pay a premium each month that covers the entire family. (Jobless people are provided coverage that is paid for by the government, like Medicaid.) Anyone can visit any hospital or clinic with some amount of copayment, and everyone is free to change physicians. There is no assignment to certain hospitals or clinics as with HMOs in the U.S. Nor is there any self-selection to become eligible, because the government subsidizes health coverage. Premium rates range from 30,000 yen to 700,000 yen per year (about $200 to $4,700 per year). That rate is decided in proportion to the income of the insured persons. Therefore, this system has a mechanism of mutual support among the insured persons. In other words, the richer people have to contribute more than the poorer people.

This nonprivate and nonprofit insurance system is broadly divided into two parts: "employee insurance," which is deductible from wages (employer and employee each pay half), and "community insurance," in which the premium is included in the tax base. The former is carried by the companies where the insured persons work. These large companies have enough employees to establish health insurance companies. Community insurance, which is mainly government subsidized, provides coverage for the self-employed, agricultural workers, employees at small businesses, etc. The company insurance costs much less than the community insurance, because the big companies screen potential employees and hire the healthy ones. The government is now concerned about the community insurance, naturally.

**In Japan, we are facing the highest medical inflation in our history.**

An interesting aspect of the Japanese health care system is the reim-

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bursement system. All the fees for procedures, medication, and medical service are controlled by the government reimbursement policies. The government publishes the guidelines, which list all the fees for service. The hospitals and clinics are reimbursed according to the guidelines, from operating fees to medication fees. (In Japan, almost all medications are sold by the hospitals or clinics.) The patients are charged the same amount nationwide for the same procedure or treatment. For instance, an appendectomy costs about $280 and a lung lobectomy about $900. Those charges do not depend on the length of the operation or the physician's experience or board certifications. Whether the physician is a resident or a professor, the charge is the same. Extra hours of anesthesia, heart monitoring, IVs, or medications, however, produce additional fees.

Another interesting aspect of Japanese health care is the separation of physicians' roles. Roughly speaking, there are three types of physicians: 1) private clinic doctors usually in solo practice with no hospital association, who refer their potentially very ill patients to a local regional hospital for further evaluation; 2) private clinic doctors in solo or small groups who own a small hospital of less than 60 beds and refer their complicated cases to a large regional hospital; 3) hospital-based physicians who work only for the hospital that hires them and are paid a fixed monthly salary. Their salaries are not dependent on how many patients they see. They not only see inpatients, but they also have outpatient clinics with the rest of the hospital staff.

Private clinic doctors do not attend the hospital but work inside the clinics only. These doctors are called primary care physicians. They run their own clinics and hire their own nurses and staffs. They operate with fee-for-service reimbursement, not a capitation payment like HMOs. In Japan there is no registered family doctor. However, the private clinic doctor has a strong connection to the community, often for several generations. These jobs are often inherited. (According to one survey, 80 percent of the students in an average private medical school are children of private doctors.) The families in the community feel free to visit their private clinic doctor or call him their "home doctor." As such, the clinic doctor covers a certain area of the community.

The most prominent difference I noticed while visiting the U.S. is that patients in Japan can stay in the hospital for many days. In my experience, a patient can stay in the hospital almost one month after colon surgery. Some patients are allowed to stay one more week after the unofficial discharge date, for their families' convenience. The average hospital stay in 1984 was 39.4 days. Those data include patients with minor surgery as well as elderly patients, who often stay in the hospital for a long period (sometimes years). In Japan, the concept of nursing homes is not yet popular. Instead, those residents who, in the U.S., would be staying in nursing homes, are hospitalized. The average charge for a private room is $30 per day. A stay in a 6-bed room is free. However, the concept of room charge is different than in the U.S. In Japan, the patient or the insurance fund is charged separately for nursing duties, meals, medications, procedures, IVs, etc., but there is no room charge *per se*. The patients pay the "room charge" separately, for private rooms only. It is true that the hospital charge, including the "room charge" is not as high as in the U.S. One of the main reasons for lower hospital costs is that patients' families often are involved in providing such services as bathing, feeding, and administration of oral medications. Also, Japanese hospitals have fewer nurses and paramedical personnel than U.S. hospitals, and they receive lower salaries than in the U.S.

**Some patients are allowed to stay one more week after the unofficial discharge date, for their families' convenience.**

Hospital costs also are lower in Japan because malpractice insurance premiums are very low. It is quite rare for physicians or hospitals to be sued by a patient. There are a number of reasons for this. The Oriental culture traditionally has a respect for authority figures, such as bosses, parents, teachers, doctors, etc. Therefore, it is unusual for a Japanese to blame his or her physician for a bad outcome. The Oriental mind is also more fatalistic than the Western mind. A Westerner is usually individualistic and unwilling to accept a poor outcome without attempting to put the blame elsewhere. An Oriental person is more likely to accept the bad along with the good as part of life. If a doctor makes an obvious mistake, like amputating the wrong leg, of course, even in Japan that could result in a lawsuit. The difference is, where judgment is involved, the Oriental will trust the physician to make the right choice most of the time. Therefore, there are almost no nuisance suits that so plague the U.S. legal system.

As a Japanese surgeon, it surprised me to see hospital stay in the U.S. getting shorter. In Japan, the administrators of the hospital are glad if the patients are hospitalized longer. The longer the patients stay, the more the hospitals are reimbursed. Most people are covered under nonprivate insurance programs, but no DRG or HMO discounts have been established so far. The hospitals and clinics can get good reimbursement from insurance funds, which are managed by nonprofit organizations. Almost 98 percent of claims for medical costs can be paid through the funds, although that percentage is dropping. Reimbursement is now being pushed by the government's tight budget. The fee-for-service system is a double-edged sword. It produces good incentives to medical care, but it also tends to lead to overtreatment. Some private clinic physicians have been accused of overcharging patients and/or tax evasion. It is not uncommon for a patient to receive four to six prescription medications even with a simple virus infection.

The incentive to expand medical care also is accelerated by the marked increase in numbers of physicians. Japan, which has suffered from a shortage of physicians, is now facing an oversupply. In 1970, the government started the policy of having at least one medical school in every prefecture. This expansion of medical schools produced record numbers of young physicians. In the 1970s, there were 3,000 medical school graduates each year in Japan. Today, 10,000 graduate each year. In 1982, the ratio of physicians per 100,000 people reached 150, almost the same as England. (The U.S. had 200 per 100,000 people.) Fortunately, some problems of the oversupply have been solved. Still another problem is the shift of young physicians toward the big urban hospitals and toward more specialized areas of medicine. This tendency is now raising medical costs due to recent advances in technology. ICU treatment and modern computerized devices are creating big expenses. After World War II, Japan shifted from an agricultural society to an industrialized society, and this has produced a corresponding shift in diseases, from infections to more complicated chronic illnesses. Naturally, this has changed medical approaches as well.

Another more prominent problem facing Japan is the aging of the population. Numbers of elderly are increasing far more rapidly than in other Western countries—almost three times as fast as in the U.S. Currently, Japanese elderly people have the highest life expectancy in the world. Since 1972, all the people over 65 have received free medical services. All their clinic and hospital charges have been covered by the insurance funds and the government. However, with the dramatic growth of the elderly population, medical expenses have ballooned. In 1983, 22.8 percent of Japan's total medical expenses were spent on the elderly people; and most of that was paid by the government. (In 1985, the government subsidized 20 percent of the expenses.) In 1983, the government enacted a new rule to reduce these costs. By that act, elderly patients are required to pay a copayment of $2 for each hospital day and $3 for the first clinic visit each month. That act also promotes preventive medicine and educational geriatric programs and advocates the concept of home care and nursing care as a means of lowering costs.

Meanwhile, the debate continues over whether or not fee-for-service payment itself is going to increase the cost of medicine. However, it is true that for many years under this system we have kept medical costs at a moderate level. Dr. Okamoto, an analyst of health care systems, suggests an interesting reason why Japan can maintain such a system. He points out that the incomes of average Japanese people are concentrated in the middle ranges ($10,000 to $25,000/year), which makes it convenient to carry such a mutual supporting system. Everybody can contribute to the insurance system with a proportionate premium and then receive the same medical services, while the government subsidizes those who lack the funds. He calls this special social situation a "redistribution of the income."

Still, we are facing a crisis that strains the national budget. The government has no intention of carrying the full burden of medical services and welfare as before. And it has started new policies to keep costs down, with many restrictions on medical services—for example, the reduction of the reimbursement rate and higher copayments for the insured.

In modern society there can be no perfect answer to solve this complicated health care problem—in Japan, the U.S., or elsewhere. Nor can we say which country has the best health care system while ignoring the backgrounds of each country. However, while keeping the fee-for-service system, Japan is seeking a reasonable solution for all its people. ■

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## **Notebook** from page 331

ern practice, doctors and hospitals are learning that you must run a lean and mean ship, i.e., you must destroy the trappings of bureaucracy by getting everybody to participate. This is why Twin Cities multihospital systems are putting physicians into positions of power as fast as they can. As physicians, you have been mostly skeptical about the effectiveness of hospital and HMO bureaucracies in improving care. You've been right.

**9.** Leaders should evaluate everybody by his or her love of change. We ought to experiment constantly with small change—and take the good and discard the bad. To survive, physicians must adopt the idea that change is the norm, not cause for alarm. I know this is tough for many of us who prefer the status quo. But at least in *Minnesota Medicine*, we can monitor the constant incremental change upon us, which can help us shift trends in our direction.

**10.** Leaders must create a sense of urgency. I once read, "Anything worth doing is worth doing urgently." In other words, everything you do, in your practice and within the hospital, must be seen as unequivocally supporting the pursuit of constant change, testing, and improvement. Act urgently—or you may not get the chance to act at all.

Here's how Peters explains what physicians must do to regain control: "Test. Try. Modify. Test. Act. Or: Act. Act. Act. Become an avowed and public hater of bureaucracy, and ceaselessly pursue more spontaneous communication."

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2. Because nizatidine is excreted primarily by the kidney, dosage should be reduced in patients with moderate to severe renal insufficiency

3 Pharmacokinetic studies in patients with hepatorenal syndrome have not been done. Part of the dose of nizatidine is metabolized in the liver. In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects.

*Laboratory Tests*—False-positive tests for urobilinogen with Multistix® may occur during therapy with nizatidine.

*Drug Interactions*—No interactions have been observed between Axid and theophylline, chlordiazepoxide, lorazepam, lidocaine, phenytoin, and warfarin Axid does not inhibit the cytochrome P-450-linked drug-metabolizing enzyme system; therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur. In patients given very high doses (3,900 mg) of aspirin daily, increases in serum salicylate levels were seen when nizatidine, 150 mg b.i.d., was administered concurrently.

*Carcinogenesis, Mutagenesis, Impairment of Fertility*—A two-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect There was a dose related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a two-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high dose males compared to placebo Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement compared to concurrent controls, and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive, and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery is not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, and the mouse lymphoma assay

In a two-generation, perinatal and postnatal, fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny

*Pregnancy—Teratogenic Effects—Pregnancy Category C*—Oral reproduction studies in rats at doses up to 300 times the human dose, and in Dutch Belted rabbits at doses up to 55 times the human dose, revealed no evidence of impaired fertility or teratogenic effect, but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in one fetus and at 50 mg/kg it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in one fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

*Nursing Mothers*—Nizatidine is secreted and concentrated in the milk of lactating rats. Pups reared by treated lactating rats had depressed growth rates. Although no studies have been conducted in lactating women, nizatidine is assumed to be secreted in human milk, and caution should be exercised when nizatidine is administered to nursing mothers.

*Pediatric Use*—Safety and effectiveness in children have not been established

*Use in Elderly Patients*—Ulcer healing rates in elderly patients are similar to those in younger age groups The incidence rates of adverse events and laboratory test abnormalities are also similar to those seen in other age groups. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

**Adverse Reactions:** Clinical trials of nizatidine included almost 5,000 patients given nizatidine in studies of varying durations Domestic placebo-controlled trials included over 1,900 patients given nizatidine and over 1,300 given placebo. Among the more common adverse events in the domestic placebo-controlled trials, sweating (1% vs 0.2%), urticaria (0.5% vs <0.01%), and somnolence (2.4% vs 1.3%) were significantly more common in the nizatidine group. A variety of less common events was also reported; it was not possible to determine whether these were caused by nizatidine.

Axid® (nizatidine, Lilly)

*Hepatic*—Hepatocellular injury, evidenced by elevated liver enzyme tests (SGOT [AST], SGPT [ALT], or alkaline phosphatase), occurred in some patients possibly or probably related to nizatidine. In some cases, there was marked elevation of SGOT, SGPT enzymes (greater than 500 IU/L), and in a single instance, SGPT was greater than 2,000 IU/L. The overall rate of occurrences of elevated liver enzymes and elevations to three times the upper limit of normal, however, did not significantly differ from the rate of liver enzyme abnormalities in placebo-treated patients. All abnormalities were reversible after discontinuation of Axid.

*Cardiovascular*—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in two individuals administered Axid and in three untreated subjects.

*Endocrine*—Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to Axid. Impotence and decreased libido were reported with equal frequency by patients who received Axid and by those given placebo. Rare reports of gynecomastia occurred.

*Hematologic*—Fatal thrombocytopenia was reported in a patient who was treated with Axid and another $H_2$-receptor antagonist. On previous occasions, this patient had experienced thrombocytopenia while taking other drugs.

*Integumental*—Sweating and urticaria were reported significantly more frequently in nizatidine than in placebo patients Rash and exfoliative dermatitis were also reported.

*Other*—Hyperuricemia unassociated with gout or nephrolithiasis was reported.

**Overdosage:** There is little clinical experience with overdosage of Axid in humans. If overdosage occurs, use of activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy Renal dialysis for four to six hours increased plasma clearance by approximately 84%

Test animals that received large doses of nizatidine have exhibited cholinergic-type effects, including lacrimation, salivation, emesis, miosis, and diarrhea Single oral doses of 800 mg/kg in dogs and of 1,200 mg/kg in monkeys were not lethal Intravenous $LD_{50}$ values in the rat and mouse were 301 mg/kg and 232 mg/kg respectively.

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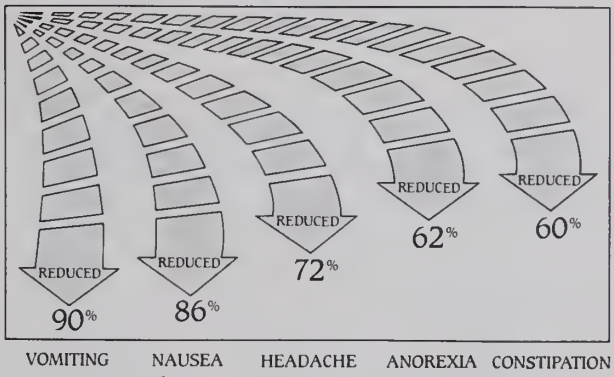
- 74% of patients experienced improved sleep after the first *h.s.* dose[1]
- First-week reduction in somatic symptoms[1]

Caution patients about the combined effects of Limbitrol with alcohol or other CNS depressants and about activities requiring complete mental alertness, such as operating machinery or driving a car. In general, limit dosage to the lowest effective amount in elderly patients.

Percentage of Reduction in Individual Somatic Symptoms During First Week of Limbitrol Therapy*



*Patients often presented with more than one somatic symptom.

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**Limbitrol® DS**

Each tablet contains 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) Ⓘⓥ

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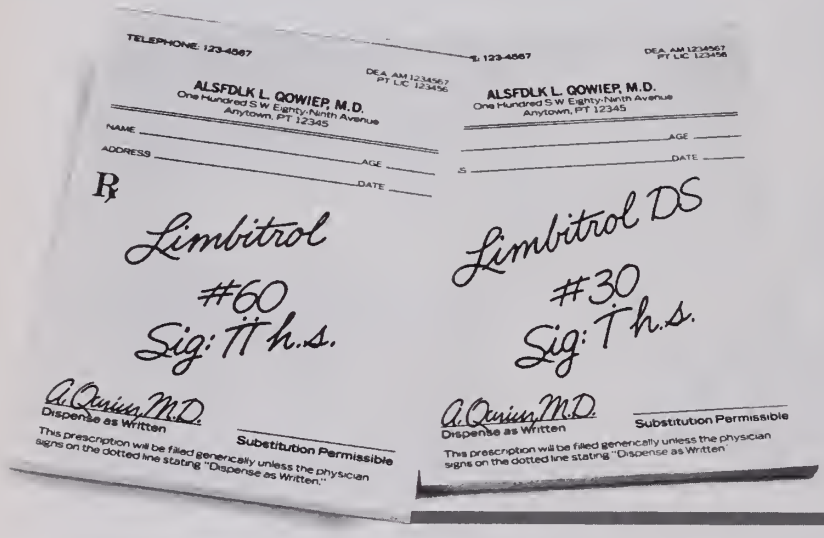
Please see summary of product information inside back cover.

## In moderate depression and anxiety

- 74% of patients experienced improved sleep after the first *h.s.* dose[1]
- First-week improvement in somatic symptoms[1]
- 50% greater improvement with Limbitrol in the first week than with amitriptyline alone[2]



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DATE

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Sig: ⅱ h.s.

a. Quinn, M.D.
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Substitution Permissible

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One Hundred S W Eighty-Ninth Avenue
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DATE

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#30
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Specify "Do not substitute."

# Limbitrol®

Each tablet contains 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt) Ⓒ IV

# Limbitrol® DS

Each tablet contains 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) Ⓒ IV

**References: 1.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Feighner VP, *et al: Psychopharmacology 61:*217-225, Mar 22, 1979.

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**Limbitrol® Ⓒ IV**
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**Before prescribing, please consult complete product information, a summary of which follows:**

**Contraindications:** Known hypersensitivity to benzodiazepines or tricyclic antidepressants; concomitant use with MAOIs or within 14 days of monoamine oxidase inhibitors (then initiate cautiously, gradually increasing dosage until optimal response is achieved); during acute recovery phase following myocardial infarction.

**Warnings:** Use with caution in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur when used with anticholinergics. Closely supervise cardiovascular patients. Arrhythmias, sinus tachycardia, prolongation of conduction time, myocardial infarction and stroke reported with tricyclic antidepressants, especially in high doses. Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving).

> ***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations. Consider possibility of pregnancy when instituting therapy.**

Withdrawal symptoms of the barbiturate type have occurred after discontinuation of benzodiazepines (see Drug Abuse and Dependence).

**Precautions:** Use cautiously in patients with a history of seizures, in hyperthyroid patients, those on thyroid medication, patients with impaired renal or hepatic function. Because of suicidal ideation in depressed patients, do not permit easy access to large quantities of drug. Periodic liver function tests and blood counts recommended during prolonged treatment. Amitriptyline may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady-state concentrations of the tricyclic drugs. Use of Limbitrol with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Should not be taken during the nursing period or by children under 12. In elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects. Inform patients to consult physician before increasing dose or abruptly discontinuing this drug.

**Adverse Reactions:** Most frequent: drowsiness, dry mouth, constipation, blurred vision, dizziness, bloating. Less frequent: vivid dreams, impotence, tremor, confusion, nasal congestion. Rare: granulocytopenia, jaundice, hepatic dysfunction. Others: many symptoms associated with depression including anorexia, fatigue, weakness, restlessness, lethargy.
Adverse reactions not reported with Limbitrol but reported with one or both components or closely related drugs: *Cardiovascular:* Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke. *Psychiatric:* Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania, increased or decreased libido. *Neurologic:* Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns. *Anticholinergic:* Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract. *Allergic:* Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus. *Hematologic:* Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia. *Gastrointestinal:* Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue. *Endocrine:* Testicular swelling, gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion. *Other:* Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

**Drug Abuse and Dependence:** Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlordiazepoxide; more severe seen after excessive doses over extended periods; milder after taking continuously at therapeutic levels for several months. Withdrawal symptoms also reported with abrupt amitriptyline discontinuation. Therefore, after extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and dependence.

**Overdosage:** Immediately hospitalize patient. Treat symptomatically and supportively. I.V. administration of 1 to 3 mg physostigmine salicylate may reverse symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

**How Supplied:** *Double strength (DS) Tablets,* white, film-coated, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt), and *Tablets,* blue, film-coated, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 50.

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# LETTERS TO THE EDITOR

## AIDS Education in Rural Minnesota

AIDS education is a national priority. The United States government has given the Centers for Disease Control (CDC) several million dollars to help educate high-risk groups and the general public. State legislatures have made similar grants to local and regional health agencies. Attractive educational packages have been put together at several levels, but most are aimed at urban and minority populations.

Two rural counties in Minnesota received a 24-month grant to identify high-risk groups, educate health care professionals, and raise the awareness of the general public about this important issue. Few members of high-risk groups are going to allow their identification in a rural community, and most health care professionals in these counties have already completed development of personnel policies and extensive inservice education concerning AIDS. This leaves the grant money to be spent on education for nursing homes and the general public.

The question thus raised is: What AIDS education is needed in a rural setting? The CDC recently released results showing that 99% of respondents to a random-sample survey are aware of AIDS, but that there is significant misinformation about the transmission of the disease through casual contact. We questioned whether our rural communities showed similar gaps in knowledge.

In cooperation with the Nobles-Rock AIDS Task Force, we mailed surveys to 735 registrants at a rural junior college that has 50% nontraditional students. A total of 382 (52%) completed questionnaires were returned. The ages of the respondents ranged from 11 to 81; 51% were between the ages of 18 and 30. Two-thirds were women.

Eighty-six percent knew that AIDS is caused by a virus; 99% considered AIDS a serious health threat or epidemic; 93% knew that the disease can be transmitted by heterosexual contact; 99% said that it could be spread by transfusion of infected blood; 87% said that it could pass from mother to newborn infant; 80% knew that infection with the AIDS agent may cause no symptoms.

As with the CDC study, the level of misinformation was highest on the question of casual contact. At least 89% knew that AIDS was not spread by casual contact, such as from toilet seats, books, or a handshake. Less than 3% blamed casual contact in the spread of AIDS, and up to 8% were unsure. About 39% believed that kissing could transmit AIDS or were unsure. Eighteen percent did not know that donating blood poses no risk to the donor.

The respondents cited multiple sources for their AIDS information: television (96%); magazines and newspapers (85% each); radio (64%); friends, schools, and churches (20% each); and parents (13%).

Six of the questionnaires were returned with religious messages or biblical quotations rather than answers.

These data suggest a knowledge level consistently higher than that of the 3,000 respondents of the CDC study. It appears that television networks, newspapers, magazines, and radio have done a good job of providing this rural group with basic facts about AIDS. However 4% to 38% of this group were misinformed or uninformed about spread of AIDS by various types of casual contact.

The only identified high-risk group in our area is that of sexually active teens with multiple partners who appear at clinics for contraceptives, abortion counseling, obstetrical care, and venereal disease information and treatment. Perhaps these rural communities' educational efforts should be directed at this group, the national problem of drug abuse, and the issues of casual contact. Such efforts will help rural communities respond appropriately to the (currently) rare residents with HIV infection and AIDS.

*Roy A. Yawn, M.D.*
*Barbara P. Yawn, M.D.*
*Worthington, MN*

## Limiting Freedom of Choice

I am a board-certified psychiatrist and psychoanalyst in practice nearly 24 years, the last 10 in Minnesota. I resigned recently as a provider with Physicians Health Plan (PHP) because an absurd "catch-22" situation had developed. In late July 1987, "MCC," a corporation working on a capitation basis to administer and provide mental health benefits, wrote to PHP-participating psychiatrists informing us that MCC would no longer approve reimbursement for our psychotherapy with PHP patients except in "special" situations. All "intensive insight-oriented" psychotherapy would henceforth be done by employees of MCC, most of whom are not medically trained or certified.

Despite this arbitrary cost-cutting ruling, PHP continued to run ads containing our names as physician providers, clearly implying that we were part of the "Freedom of Choice" network of physicians whom new patients could see if they enrolled. This seems to me deceptive advertising. Nowhere in it was there a disclaimer that if people joined PHP, MCC rules forbade them from seeing me in psychotherapy. In fact, three people who joined during that campaign in the fall of 1987 later were referred to me. However, they (and I) then learned that the indemnity plan they had purchased would cover treatment but only by MCC employees or a psychiatrist who did not participate in PHP. Thus, I could not treat patients as a provider, only as a non-provider.

I protested this absurdity to PHP and requested a waiver of the 60-day notice of resignation as a PHP medical provider so I could treat such patients without such a long delay. George T. Morrow, the former president and CEO of PHP, informed me that "the 60-day rule with respect to notification of termination is for the benefit of our members . . . and must remain in force."

This is an outstanding example of business-speak nonsense. Perhaps "members" should wait two months to see the physician of their choice, but should acutely ill patients? I will leave my concerns about quality of patient care and how it suffers under this sort of marketplace mentality for another day.

*Keith A. Horton, M.D.*
*Minneapolis, MN*

## Prenatal Care

During fiscal year 1986, the Medical Assistance (MA) and General Assistance Medical Care (GAMC) programs expended $31.1 million for prenatal, delivery, and postnatal care. Problem pregnancies and poor birth outcomes accounted for approximately $20.1 million of that amount. These largely preventable conditions affected 11,813 infants from birth through one year, and 12,362 women. In its 1985 study for the National Academy Press, the Institute of Medicine found that for every dollar spent on improved prenatal care for low-income women, $3.38 is saved during the infant's first year after birth.

Maximizing opportunities for interventions to improve the probability of positive pregnancy outcomes for low-income women is the goal of the Department of Human Services' (DHS) Prenatal Care Initiatives to be implemented July 1, 1988. The program will be state administered, with federal, state, and county funding. DHS has obtained state legislative authority to raise income eligibility standards for pregnant women and infants up to one year to 185% of the federal poverty guidelines.

All pregnant women receiving prenatal care funded by the state will be screened for risk of preterm birth. A risk-assessment instrument will be distributed by DHS and its use required for all pregnant women whose care is reimbursed by Medical Assistance. Primary providers (physicians/certified-nurse-midwives) will use the risk assessment to help structure prenatal care by identifying possible interventions and to encourage appropriate referrals for improving care. The provider will receive a payment of $5 for each risk assessment form submitted to the Department of Human Services.

A determined score of ten points or more places the pregnant women into the 'High Risk for Preterm Delivery' category. The primary provider will then be eligible for an additional $60 from Medical Assistance as reimbursement for additional time management based on the woman's high-risk status.

For those women found to be at risk of preterm delivery, providers will be reimbursed for enhanced prenatal services beyond the global MA package of prenatal care including:

1. High-risk antepartum management
2. Care coordination
3. Prenatal Health Education I
4. Prenatal Health Education II
5. Prenatal nutrition education
6. High-risk follow-up home visit

Appropriate enrolled providers can bill DHS directly with physician/certified-nurse-midwife referral and the prior authorization number.

With your participation and support, the result of this important program will be an improvement in maternal and child health and a reduction in state costs for medical care for infants. Additional information and updates will follow.

*Mary Lawler*
*Prenatal Care Initiatives*
*Minnesota Department of Human Services*
*St. Paul, MN*

## A Good Blend

I have enjoyed the formats of the March and April journals. I think the Perspectives section was especially good in the April issue, and as the father of two teen-agers, I found that my colleagues' March article on what is going on in Worthington High School ("Teenage Sexuality Education in Rural Minnesota") was certainly appropriate to print and very timely. I appreciate seeing the Clinical & Health Affairs section included and having the journal something more than a strictly socioeconomic commentary. Keep up the good work.

*J. N. Mork, M.D.*
*Worthington Medical Center, P.A.*
*Worthington, MN*

## Typo

A typographical error appeared in Dr. Jerome E. Kwako's name in the March 1988 issue of *Minnesota Medicine* ("Voices of Pediatricians Across Minnesota"). We regret the error and extend our apologies.

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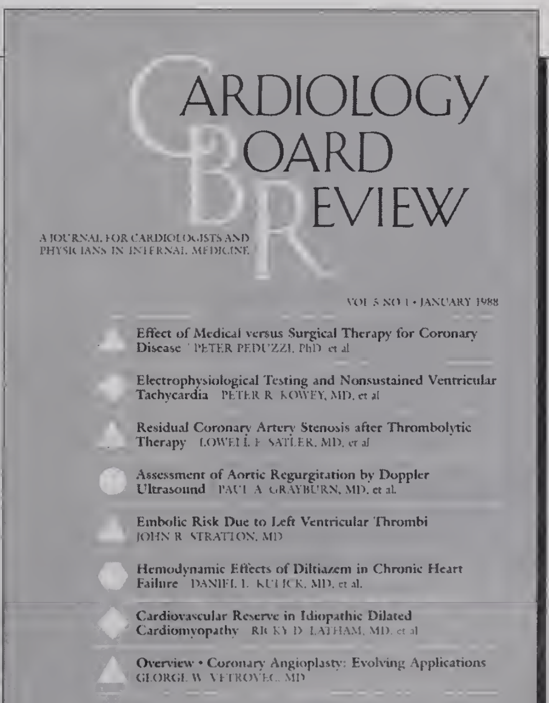

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Residual Coronary Artery Stenosis after Thrombolytic Therapy LOWELL F SATLER, MD, et al

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Cardiovascular Reserve in Idiopathic Dilated Cardiomyopathy RICKY D LATHAM, MD, et al

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*Journals reviewed include: *Circulation*, *American Heart Journal*, *Journal of the American College of Cardiology*, *British Heart Journal*, *Chest*, *The American Journal of Cardiology*, *The New England Journal of Medicine*, *Annals of Internal Medicine*, *American Journal of Medicine*, and *The Journal of the American Medical Association*.

*Professionally Speaking:*

# "Rehabilitation must focus on a broad base of patient care."

*Dr. Bruce Idelkope, Medical Director, Institute for Rehabilitation Services.*

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# Crisis in Nursing: Why Some Leave, Why They Should Stay

Miriam K. Feldman

After 23 years as nurse Pat Gault is calling it quits. Gault is a certified medical surgical nurse and a gerontologic nurse, a teacher of nurses, and author of a curriculum on nursing care of the AIDS patient. After nearly a quarter of a century as a nurse, she's starting over as an accountant. "I love nursing," she proclaims, "and that's why I'm leaving."

Gault loves the many aspects of nursing. "Being able to spend time with a client. Letting them cry and laugh, discuss their fears and anxieties. To teach them. Plan their discharges, or help them die in a humane fashion. That's what I love about nursing."

Yet for Gault, as for nurses everywhere, it is getting harder to find the time do those things, which are, in fact, the essence of nursing. She recalls when 6,300 Minnesota nurses walked out in June 1984, in the largest strike in U.S. nursing history. If there's ever another strike, she says, it won't be over money. It will be over working conditions, because there's not enough help. "If they gave me another five dollars an hour, I wouldn't stay," she says.

"I love it too much to stay and watch it go down the drain," Gault explains. "The frustration became so supreme about a year and a half ago, I thought, 'What am I doing this for? No one appreciates me. The hospital administrators even think we shuffle papers.' "

Gault's is an extreme reaction to the frustrations of a career in nursing; there is no evidence that nurses are leaving the profession in significant numbers. In fact, nurses have one of the highest labor-force participation rates of any occupation predominantly engaged in by women (97 percent are women), with three-fourths of them employed at any given time. Nevertheless, a shortage of nurses has reached crisis levels in some parts of the country (not in Minnesota, yet) because the demand for nurses has never been greater. At the same time, the level of dissatisfaction is so high that many nurses tell their children and friends not to go into nursing, and surveys of 18-year-old freshmen show that interest in nursing is at an all-time low.

And it's no wonder. The public sees nursing as an unattractive profession. It's a seven-day-a-week, 24-hour-a-day job, with night, holiday, and weekend shifts. The work is hard and is becoming harder due to the acuity of cases and the shortened length of hospital stays. Opportunities for advancement within hospitals, where 68 percent of employed nurses work, is limited. What's more, nursing is undervalued by other health professionals.

COURTESY OF MN NURSES ASSN.

**Nurses are frustrated by dated images portraying them as able assistants to physicians, period.**

The hospital nurse runs to the pharmacy for medicine, passes trays, and empties the trash, because hospitals, feeling an economic pinch, won't hire extra workers for those unskilled tasks. Today's nurse is swamped with paperwork. She documents information for insurance companies, who dictate how much we can spend on health care, and for protection against lawsuits from an increasingly litigious public.

Why, then, would anybody in their right mind want to be a nurse? Because, says RN Lynette Iverson, "Nursing is so very good. It's a very honorable profession to be in. It can't be compared to anything else."

Iverson's view was corroborated in interviews with hospital nurses, nurse administrators, nurse educators, nurse practitioners, and leaders in professional organizations. Nurses today are key decision makers in a complex and often high-tech health care system. They deal with crisis situations that require instant assessment and action; they are teachers; and they are exquisite hand-holders. They meet the total needs of the sick and the dying.

Nurses know that, and those who have been cared for by them know that. But to many employers and physicians, and to much of the public, they are little more than the handmaidens of yore. Thus, the challenge for nursing is to gain recognition as a profession that makes a unique and indispensable contribution to the health of society. At the same time, other health care professionals and employers will have to recognize and reward nurses for their contributions.

Nurses have to work to make changes in the profession, says Nancy Higgerson, vice president of nursing at Abbott Northwestern Hospital, and president of the 4,000-member American Organization of Nurse Executives. "The nurses have got to get involved. They've got to get politically active. They can't just sit back and say, 'You've got to fix it.' They've got to help us fix it."

One thing Higgerson would fix is the lack of education standards for nurses. Nurses are practicing with two-, three-, or four-year degrees, and some have graduate training. "If you match us up against the other professions that are economically moving, they aren't coming out of diploma or two-year programs," says Higgerson, who has been an administrator for nearly 20 years, eight of them at Abbott. "If we want the status of the attorneys and the physicians, look at their education. It isn't a one-year program."

**"The majority of the public thinks we're able assistants to physicians. And that's where it stands."**

Lynette Iverson, who is president of the Minnesota Nurses Association (MNA), District 3, and a recovery room nurse at Abbott, agrees that nurses are going to have to work hard to enhance the profession. "I love nursing," she says. "I despise the system." She argues that nurses must challenge the system from within. For hospital nurses, that means learning to speak the language of hospital administrators—a language spoken in dollars and cents.

If nurses want aides to lighten their load, they are going to have to convince hospital administrators that aides make economic sense. A highly paid nurse should not be running to the pharmacy or emptying the trash, Iverson says. "But we need to prove in facts and figures and dollars and cents how having an aide would save the hospital money."

Nurses have always contended with an image problem. It took a Florence Nightingale to battle the British Army and reform the hospital at Scutari, at the same time transforming the image of nursing. Of her own decision to become a nurse, she once said: "It was as if I had wanted to be a kitchen maid."

Nursing has come a long way since Nightingale's reforms, but the image problem has not disappeared. "The societal history of nursing has been that the nurse serves the physician. She's the handmaiden," Higgerson explains. "There's another conceptual framework that says the nurse is sexy and dumb, but good looking." Neither image is valid in contemporary society.

Observe the media, challenges Higgerson. "Look at the soaps and see how the nurse is portrayed. In fact, look at most of the media and tell me where the bright nurse is being portrayed. You won't find it, or you'll rarely find it."

STAR/TRIBUNE, MPLS.-ST. PAUL

**Minnesota nurses walked out in June 1984.**

As Iverson sees it, smart people aren't expected to go into nursing; they're told to do something else. But nurses are beginning to respond. "Our district has become more proactive in addressing issues," Iverson says. A newly created media watch group and a speakers bureau are addressing the image issue.

Diane Hiemenz Amer is a registered nurse who works as a staff

CRAIG LASSIG

**Deb Boehm (left) talks with a patient.**

# Doing It Their Way

*Miriam K. Feldman*

Deb Boehm is one of the lucky nurses. Not only does she love her work; she loves her work conditions. Boehm is a nurse practitioner who specializes in gynecologic care. In an interview in the conference room of the suite of offices she shares with her partners, Boehm recalls a conversation that made her realize just how ideal her situation is. "Someone asked me, 'Where do you go after this? Where do you advance to?' I couldn't think of where you advance to. I think this is the end, in terms of practice setting."

Five years ago Boehm took the bold step of establishing a private practice. Along with two certified-nurse-midwives and Dr. Patsy Parker, an obstetrician gynecologist, she formed Women's Health Care Associates, P.A. It was the first physician-nurse practitioner professional organization in the state. The group has expanded to two obstetrician gynecologists, four certified-nurse-midwives, and one nurse practitioner.

Setting up a private practice can be risky business, Boehm concedes. There are budgets to consider and concerns over whether the practice will draw enough patients. But the risks are offset by a sense of independence she never felt in a hospital setting and by the joys of being able to practice the full scope of her knowledge.

Boehm spent a year as a hospital nurse and five years at the University of Minnesota's Childbearing-Childrearing Center, where her responsibilities were similar to what they are now. But she wanted something more. "I was looking for more autonomy and more independence," she said. "I wanted to have more control over my environment. To do that in any other business you go out on your own. You start your own store. And it intrigued me to do that in a field I was practicing in." Being her own boss means she can add or change a piece of equipment. "Or I can add a new dimension to the scope of my practice."

For Connie Diercks, a certified-nurse-midwife who joined the group in its first year, a private practice means working with people of "like mind." Diercks, who also worked at the Childbearing-Childrearing Center, sees control as an important issue, too.

**Their Way** *to page 355*

specialist in public relations for the MNA. "The public has a good image of nurses," she says, "but it's an inaccurate one. The image out there is stuck in the 1940s." The nurse is a vision in white—an angel of mercy. "Nurses feel frustrated with their image. The majority of the public thinks we're able assistants to physicians. And that's where it stands."

Amer works to correct that image, by, among other things, speaking to schoolchildren about nursing. Children think nurses give shots and help the doctor, and are surprised when Amer tells them what nurses actually do.

Today's nurses choose medicines from a standing order list; teach patients and families how to care for themselves once they leave the hospital; and steer patients to social service agencies for financial and other help. Nurses help decide where the patient will go after the hospital. They deal with nearly 2,000 kinds of medications and 120 lab tests. Intensive care nurses monitor patients who are on five or six, or more life-support machines. In intensive care, as one nurse put it, a patient's condition can change so suddenly that there's often not time to call a doctor for advice.

Hospital nurses are working in an increasingly complex environment. "We're giving very toxic drugs, dealing with family, and asking questions like, 'Do you treat grandma, or do you let grandma die?'" Pat Gault says. Plus, she points out, patients come to the hospital sicker and leave sooner, so the intensity of a nurse's work is that much greater.

Today's nurse is "bright, articulate, a decision maker, a thinker, as well as a doer and a nurturer," says Higgerson, who believes it's important that the historical image of the dumb handmaiden be replaced by the more accurate image of "the bright, accountable, value-driven kind of a nurse."

Although the handmaiden image persists, the day of the nurse rising when the doctor enters the room is past. When Higgerson arrived at Abbott eight years ago, nurses needed a doctor's orders to shampoo a patient's hair, cut toe nails, or give a bath. All that has changed. "What nursing is is decision making and action. Assessment or evaluation. Looking at what you're seeing, putting that all together, making a decision, doing an intervention, evaluating whether it's working. That's never going to change. But (a nurse) doesn't have to empty the trash to make those assessments," Higgerson says.

**"Nurses today are key decision makers in a complex and often high-tech health care system."**

Emptying the trash has become a symbol for all that is wrong with nursing. The real problem is that nurses don't feel rewarded for all that they do. One hears few complaints about the $23,000 starting salaries of many Twin Cities nurses. But wage compression is an issue with nurses. After eight to 10 years, salaries top out at about $31,000.

Money is just one form of compensation, however, and while nurses may want more, they understand that they are part of a health care system under economic siege. But nurses do want to be recognized for their contributions to the health and well-being of society. Instead, they feel slighted by a system that values the physician more than the nurse.

The nurse, says Higgerson, should be celebrated for her unique contributions. She deals with the patient's spiritual, social, economic, and emotional well-being, as well as with the disease.

As the MNA's Iverson puts it: "Doctor's don't see a patient like we see a patient. They don't see a patient for eight hours. They see them for five minutes. That does give you a different view."

That's not to say nurses see themselves as mini-doctors, Iverson insists. "That's not our scope of practice. It has a different focus."

ABBOTT NORTHWESTERN HOSP.

**RN Lynette Iverson**

Ellen Fahy, dean of the University of Minnesota's School of Nursing, articulates the difference between nursing and medicine: "Physicians have a monopoly on cure and diagnosis and treatment. We have a monopoly on care. Caring is what we do as a living. Social, emotional, and physical care."

But instead of being valued for their contributions, nurses often find themselves at the bottom of the pecking order. Iverson, who works in the high-tech setting of the surgical recovery room, enjoys a good relationship with physicians. Nevertheless, she says nurses are slighted by the hospital, which maintains separate dining rooms for doctors and nurses. What's more, the physicians' dining room stays open 'round the clock; the nurses' closes early in the evening, before many nurses have a chance to eat dinner. Doctors have priority for parking; nurses park wherever there's space. "If they treated nurses as well as doctors, there wouldn't be a nursing shortage," she argues.

Barbara Volk Tebbitt would agree. The work environment must be addressed by health care institutions if the nursing shortage is ever to improve, says Tebbitt, who is director of nursing services at the University of Minnesota Hospital and Clinic. Tebbitt is also a member of the American Hospital Association's Special Committee on Nursing, which is studying the nursing shortage. In the early '80s, she chaired a governor's task force in Minnesota that looked at solutions to the earlier nursing shortage. Then, as now, education, environment, and economics were the issues that needed to be addressed in order to attract new people to nursing and to retain the ones already there, she says.

Nurses may have to struggle to change the profession, but employers are going to have to meet them half way. If hospitals want nurses to stay, they will have to let them participate in management decisions, Tebbitt says. "We need to put nurses in a position where they're respected for contributing to the health of society."

The message that nurses are valued has to reach the public if more people are to choose nursing as a profession. Between 1974 and 1986, there was a 50 percent decline in the proportion of first-time, full-time freshmen women who planned to pursue nursing careers, according to a survey by UCLA's Higher Education Research Institute. Many are choosing medicine instead. In 1968, the number of freshmen wanting to be nurses was three times the number wanting to study medicine. In 1986, it was the other way around, by a ratio of five to four.

Nursing school enrollment is declining all over the country, according to Dean Fahy. Enrollment at Minnesota bottomed out in 1986 but made a bit of an upturn last year, perhaps due to the school's aggressive recruitment campaign. The school is stressing what the profession can do for the person, rather than what a great school it is. "The opportunities for nurses are three times what they were 10 years ago," Fahy says. Options other than hospital work are beginning to open up. Nurses can work in home health care and community health care. They can work for HMOs or industry, or they can be part of international health teams in developing countries.

Whatever the setting, nursing could be more rewarding if the nurse were viewed as a partner, rather than a handmaiden. "It could be more fun if we were truly more collegial," Iverson says. "I'm in an area where it's fun to practice nursing. Perhaps necessity breeds that. The doctors and nurses have to trust each other. Perhaps the more technical, the more critical the area, the more respect."

Nurses want to collaborate with doctors, not compete with them, but that will take improved communication. "Nurses value physicians, and they value their input and they value how they are received by them," Higgerson says. Physicians must listen to what nurses have to say and value their contributions, too.

Optimism is running high that if nurses become more active in organizations, become more vocal, and insist on professional standards for education, their lot will improve. The nursing shortage, too, should work in their favor. This year's graduates "have been courted by every outfit from Maine to California," says Fahy. Higgerson reports that nurses' salaries reach $51,200 at Boston's Beth Israel Hospital (where there are no vacancies for RNs).

In Minnesota, says Higgerson, where health care is valued, nurses are typically respected. But there still is room for improvement. "I don't think we're at an interactive, collaborative level like we could be." More team work is needed, and doctors have to be more willing to listen to what nurses have to say. "Together I think we're just a powerful, dynamic team, but we have to listen to each other." ■

## Their Way continued

Diercks has been a nurse for 18 years, nearly all of them as a nurse-midwife. Her first job was in the Peace Corps, where, of necessity, she was challenged to use all of her resources. "I had to use a lot of my nursing knowledge, and I found out that I could. I knew a lot," she says. But when she returned home, things were different. "I wasn't able to use my knowledge to the fullest," she said.

As a nurse-midwife Diercks monitors the health and progress of mother and fetus, and delivers the babies of women who have normal, healthy pregnancies. It's an enormous responsibility, she says, but at the same time she acknowledges her limitations. "A question a lot of nurse practitioners get is, 'Why aren't you a physician? Are you a nurse practitioner because you're a frustrated physician?'" To which Diercks replies: "I'm happy with the responsibility I have. I would not choose to have more."

While these nurses clearly accept their limitations—they know their place, so to speak—the medical establishment has never embraced them. There still are physicians who perceive them as unwanted competition. But Dr. Patsy Parker argues that there is room for both.

Parker does not want to provide the kind of routine care the nurses give. "They do many things that I don't want to do, and they do them excellently," she says. "I essentially think that the nurse practitioners in certain areas are equal to myself. In certain areas they can do exactly what I do, and as well," Parker says. "They can do Pap smears, routine vaginitis checks, prenatal care, breast care, routine delivery, and counsel birth control," she explains.

"I'm interested in different things. I am trained to do surgery. That's what I spent most of my training learning to do. We're not even trained to give prenatal care. We only learn medicine, and I think the nurse looks at a wider scope."

Boehm agrees. "We're not as scientifically trained as physicians are." Nurses, she says, are not trained to look at people as a disease, a diagnosis. "We're trained to provide day-by-day care.

"I don't want to be a physician," Boehm says.

And Diercks concurs: "I don't either."

# Consumer Use of and Satisfaction with Health Services under Different Health Insurance Plans in the Minneapolis/St. Paul Metropolitan Area

*John Kralewski, Ph.D.; Malcolm Mitchell, M.A.; Gale Nyseth, M.A.; and Janet Shapiro, B.A.*

**A random sample of 1,014 households in the seven-county Minneapolis/St. Paul metro area was interviewed to identify the type and extent of health insurance coverage and determine utilization rates and satisfaction with services under various types of plans. The uninsured population was found to be somewhat smaller than expected (6.4%). The largest group of uninsured tended to be young, unmarried, and employed people in firms that do not provide health insurance. The study also revealed that most respondents are quite satisfied with their health services regardless of the type of plan. Contrary to anecdotal information, the respondents did not indicate dissatisfaction with the changing health care system.**

This study identifies the type and extent of health insurance coverage in the Minneapolis/St. Paul metropolitan area and assesses utilization rates and satisfaction with services under various types of plans. The analysis is part of a three-year study of the competitive health care delivery system in the Twin Cities area and is a collaborative effort of the Metropolitan Health Planning Board of the Metropolitan Council and the Division of Health Services Research and Policy in the University of Minnesota's School of Public Health. The study is based on data collected during the last six months of 1985 and the first six months of 1986, from a random sample of 1,014 households in the seven-county metro area by means of a telephone interview. In most cases, the respondent was the person in the household identified as most knowledgeable about the health care aspects of the household. The unit of analysis is the household, however, individual responses were reported in some instances, such as the analyses of satisfaction. Respondents were asked to report insurance coverage and utilization rates for all members of the household and were asked to indicate level of satisfaction with the services received during the last visit to a physician and/or hospital.

## Health Insurance Coverage

Table 1 summarizes household enrollment in the various health insurance plans.

Thirty-two percent of the households surveyed are enrolled exclusively in health maintenance organizations (HMOs), and an additional 8% have at least one member enrolled in an HMO. This is consistent with the HMO enrollment figures published by the state health department, indicating that our sample is reasonably representative of the entire metropolitan population (1984, HMO Statistical Report, Minnesota Department of Health). Seven percent of the households (not separately identified in Table 1) have individuals enrolled in either more than one HMO, or more than one fee-for-service (FFS) group. In the data analysis, those with dual-HMO or dual-FFS coverage are included in their respective HMO and FFS categories. Eight percent of the households have individuals enrolled in one HMO and one FFS plan. In these households, it was not possible to determine which plan type was being referred to in the interview, therefore, this group was not included in the further analysis of the data.

Five and one-half percent of the households have no insurance, representing 6.4% of the individuals included in this survey. Sixteen percent of the households have some form of public program, with Medicare accounting for over three-fourths of this enrollment. Over 85% of the Medicare recipients have some form of supplemental insurance. Those few without a supplemental plan are included in the 'government only' group.

Tables 2-5 exhibit insurance coverage by income, age, and employment. As expected, insurance coverage increases as household income rises. Over 90% of those with incomes above $30,000 are fully insured, while nearly a quarter of those under $10,000 are uninsured. Only 62% of the respondents reporting incomes less than $10,000 have insurance plans that cover everyone in the household. Nearly 25% of households in this group are totally uninsured and another 13% have at least one member of the household without insurance.

The number of high-income households with at least one member uninsured is an unexpected finding. It appears that this represents self-employed workers who do not buy health insurance for themselves or some other member of the household, and dependents who are past the age of inclusion in their parents' health insurance plan and have not purchased coverage for themselves.

Table 3 shows the household health plan within each income group. In most income groups, the division between HMO and FFS plans shows little difference, but in the $50,000-and-up group, a greater proportion of the households have FFS plans.

The uninsured population is made up of two groups. The largest group is relatively young (20-34 years old), single, and employed but with low to moderate incomes (between $10,000 and $30,000 per year). The other group includes the unemployed and those employed part time with incomes below $10,000 per year. The employed uninsured probably include both those working in firms that do not provide health insurance and the self-employed. Almost 7% of children under age ten were uninsured at least part of the six-month period of the survey (Table 4). Of the 54 households without health insurance, 40 were single-person households (Table 5).

## Utilization of Services

Table 6 reports the effects of the type of health plan on utilization of services.

Not surprisingly, the average number of physician visits per household and per person were considerably less when there was no health insurance coverage in the household. In part, this may reflect the fact that persons without insurance tend to delay or defer seeking care for minor illnesses. This utilization pattern also may result from the fact that a large proportion of this population is young and healthy and consequently uses very few services.

**TABLE 1**

| Plan | N | Percent |
|---|---|---|
| HMO | 326 | 32.0 |
| FFS | 391 | 38.5 |
| HMO/FFS | 80 | 8.0 |
| Medicare with supplement | 122 | 12.0 |
| Government only | 37 | 4.0 |
| No insurance | 57 | 5.5 |
| TOTAL | 1014 | 100 |

NOTE: **HMO**—only HMO coverage in household (includes Medicare recipients who have enrolled in the TEFRA-Risk HMO plan)
**FFS**—only fee-for-service coverage in household
**HMO/FFS**—at least one HMO and one FFS in household
**Medicare with supplement**—Medicare plan plus HMO or FFS plan
**Government only**—Medical Assistance (MA), or Medicaid, Medicare without supplement, General Assistance Medical Care (GAMC), Champus, and other government programs

**TABLE 2**
Household health insurance coverage by household income

| Income | | Uninsured | Some Insured | Subtotal | Fully Insured | TOTAL |
|---|---|---|---|---|---|---|
| Under $10,000 | N | 19 | 10 | 29 | 48 | 77 |
| | % | 24.7 | 13 | 37.7 | 62 | 100 |
| $10,000-19,999 | N | 18 | 14 | 32 | 102 | 134 |
| | % | 13.4 | 10.5 | 24 | 76 | 100 |
| $20,000-29,999 | N | 10 | 15 | 25 | 182 | 207 |
| | % | 4.8 | 7.3 | 12.1 | 87 | 100 |
| $30,000-39,999 | N | 2 | 12 | 14 | 137 | 151 |
| | % | 1.3 | 8 | 9.3 | 90 | 100 |
| $40,000-49,999 | N | 3 | 4 | 7 | 111 | 118 |
| | % | 2.5 | 3.4 | 6 | 94 | 100 |
| Over $50,000 | N | 2 | 9 | 11 | 119 | 130 |
| | % | 1.5 | 7 | 8.5 | 91 | 100 |
| TOTAL | N | 54 | 64 | 118 | 699 | 817 |
| | % | 6.6 | 7.8 | 14.4 | 85.6 | 100.00 |

NOTE: **Uninsured**—no insurance. **Some insurance**—at least one person is without insurance. **Fully insured**—everyone insured.

**TABLE 3**
Household health insurance plans by household income

| Plan Type | | $0-9,999 | $10,000-19,000 | $20,000-29,999 | $30,000-39,999 | $40,000-49,999 | $50,000 and up | TOTAL |
|---|---|---|---|---|---|---|---|---|
| HMO | N | 28 | 69 | 92 | 70 | 50 | 52 | 361 |
| | % | 24.8 | 36.5 | 40.9 | 44 | 41 | 37.4 | 38 |
| FFS | N | 37 | 78 | 106 | 75 | 51 | 69 | 416 |
| | % | 32.7 | 41.3 | 47.1 | 47.2 | 41.8 | 49.6 | 44 |
| HMO/FFS | N | 2 | 17 | 15 | 12 | 18 | 16 | 80 |
| | % | 1.8 | 9 | 6.7 | 7.6 | 14.8 | 11.5 | 8 |
| Govt. only | N | 28 | 6 | 2 | 0 | 0 | 0 | 36 |
| | % | 24.8 | 3.2 | .9 | 0 | 0 | 0 | 4 |
| No ins. | N | 18 | 19 | 10 | 2 | 3 | 2 | 54 |
| | % | 15.9 | 10 | 4.4 | 1.3 | 2.5 | 1.4 | 6 |
| TOTAL | N | 113 | 189 | 225 | 159 | 122 | 139 | 947 |
| | % | 11.9 | 20 | 24 | 16.7 | 12.8 | 14.6 | 100 |

NOTE: Households with one HMO and one FFS (HMO/FFS) are included in this table.

Households with government programs are the highest utilizers of physician care. This group includes AFDC families and those covered by Medical Assistance under the Medicaid program. Medicare households with a supplemental plan have fewer average visits per person than households with Medical Assistance but have more physician visits per person than households with HMO or FFS plans. This is consistent with the illness patterns of the over-65 population. Overall, these differences are statistically significant at the .006 level.

The vast majority of the respondents receive their care from a doctor's office or their HMO clinic. Only 12.5% of the ambulatory care visits were in hospital emergency rooms or outpatient clinics. Contrary to common belief, those without insurance primarily use the doctor's office for their ambulatory care rather than hospital outpatient clinics. Their use of emergency room or hospital outpatient services is similar to FFS, Medicare, and Medicaid enrollees'. HMO patients, however, tend to use fewer of these services, suggesting that HMO enrollees have been educated to use the hospital emergency room only in real emergencies. Very few of the respondents use emergi-centers for care. Apparently, emergi-centers have not become well established as a part of the health care system in the Minneapolis/St. Paul metropolitan area.

Utilization of services is in part a function of the individual's ability to gain access to care. One measure of access is waiting time for appointments. The data indicate that there is no appreciable difference in access to physicians' care by health plan (p=.75). Because many visits to physicians are not emergencies (e.g., Pap smears, eye exams, well-baby visits), it can be surmised that some of the persons waiting up to two weeks for an appointment were not under pressure to be seen. Regardless of coverage (or lack of coverage), about three-quarters of the respondents reported that they were seen within four days of calling to make an appointment. It is interesting to note that over one-fourth of all who sought care were able to be accommodated immediately. Those without any insurance were seen in the same time frames as those with insurance, suggesting that physicians in this community do not take insurance coverage into account when appointments are made for their services.

**TABLE 4**
Insured and uninsured by age group

| Age in Years | | Uninsured | Insured | TOTAL |
|---|---|---|---|---|
| 0-9 | N | 30 | 400 | 430 |
| | % | 7.0 | 93.0 | 100 |
| 10-19 | N | 14 | 391 | 405 |
| | % | 3.5 | 96.5 | 100 |
| 20-24 | N | 34 | 142 | 176 |
| | % | 19.2 | 80.2 | 100 |
| 25-34 | N | 44 | 478 | 522 |
| | % | 8.4 | 91.6 | 100 |
| 35-64 | N | 39 | 788 | 827 |
| | % | 4.7 | 95.2 | 100 |
| 65+ | N | 1 | 172 | 173 |
| | % | .6 | 99.4 | 100 |
| TOTAL | N | 162 | 2371 | 2533 |
| | % | 6.4 | 93.5 | 100 |

NOTE: Age is by individuals in household.

**TABLE 5**
Single-person households by employment and health insurance status

| Employment | | Uninsured | Insured | TOTAL |
|---|---|---|---|---|
| Non-working[1] | N | 5 | 17 | 22 |
| | % | 23 | 77 | 100 |
| Unemployed | N | 5 | 12 | 17 |
| | % | 29 | 71 | 100 |
| Part-time | N | 5 | 14 | 19 |
| | % | 26 | 74 | 100 |
| Full-time | N | 25 | 204 | 229 |
| | % | 11 | 89 | 100 |
| TOTAL | N | 40 | 247 | 287 |
| | % | 14 | 86 | 100 |

[1] Non-working includes students, retired persons, homemakers, and disabled.

**TABLE 6**
Average number of physician visits by plan type for six-month period (1985-1986)

| Plan type | Average # of MD visits per household* | Median # of MD visits per household | Family Size | Average # of MD visits per person | N |
|---|---|---|---|---|---|
| HMO | 5.5 | 3.0 | 2.8 | 2.0 | 326 |
| FFS | 4.8 | 3.0 | 2.9 | 1.6 | 391 |
| Medicare with supplement | 3.9 | 2.0 | 1.8 | 2.1 | 122 |
| Govt. only | 5.7 | 3.5 | 2.2 | 2.5 | 38 |
| No insurance | 1.9 | 1.0 | 2.2 | 0.9 | 57 |

* F=3.66; df=4; p=0057

## Satisfaction

Consumer satisfaction is an important issue in the delivery of health care in a competitive market. Satisfaction was analyzed both in terms of hospitalization (if there was a hospitalization in the household during the survey period) and satisfaction with the last visit by a household member to a physician. Satisfaction questions were not generalized as to satisfaction with all health care received by a household but focused on the last physician visit or hospitalization of a household member.

**Hospitalization:** More than two-thirds of the respondents who had been hospitalized overnight during the study period reported that they were satisfied with their care. The majority of the remaining one-third of the respondents were somewhat satisfied with the services. With the exception of food and cost considerations, only a small number of the respondents were very dissatisfied with their hospital experience (Table 7).

Among the 104 households that had at least one hospitalization, only 38% paid any portion of the hospital bill. Among this group, more than half were very satisfied with the cost, 28% were somewhat satisfied, and 17% were dissatisfied.

Few differences in satisfaction were found among the enrollees in the various types of health insurance plans. The majority of the households in all insurance plan categories were very satisfied with both the technical and the social/psychological aspects of their hospitalization. HMO patients tended to be more satisfied than either FFS or Medicare patients in all the categories. However, there were no statistically significant differences in consumer satisfaction among the plans.

**Physicians' Services:** Twelve aspects of physician services were evaluated for consumer satisfaction, as shown in Table 8. As with hospital care, the majority of the respondents were very satisfied with physician services. Fifty percent of the consumers were "very satisfied" with their physicians' services, and 90% indicated that they were "very satisfied" or "somewhat satisfied" with nine of the twelve aspects of their physicians' care. The only exception is "cost of services," which is the lowest in satisfaction of all aspects, followed by "availability at night and weekends" and "willingness to discuss charges." Less than 5% of the respondents are "very dissatisfied" with any of these aspects of their physicians' services.

Few differences were found in satisfaction with physicians' services by health plan (Table 9). In a few instances, such as ease in getting an appointment and availability nights and weekends, those with no insurance were actually more frequently very satisfied than those in HMO or FFS plans. The only statistically significant difference in satisfaction by type of health insurance plan was with cost ($p < 0.001$). Comparisons show that the HMO enrollees are the most satisfied with cost, followed by the govenment-only recipients. Of those with insurance, FFS patients are the least satisfied in this regard, probably reflecting the coinsurance and deductible provisions typical of those plans.

**TABLE 7**

Satisfaction with hospitalization for six-month period (1985-1986)

| | Very Satisfied | Somewhat Satisfied | Somewhat Dissatisfied | Very Dissatisfied | N |
|---|---|---|---|---|---|
| Admitting procedures | 68% | 26% | 4% | 2% | 103 |
| Doctors' care | 73 | 20 | 4 | 3 | 104 |
| Nurses' care | 72 | 20 | 4 | 4 | 104 |
| Food | 36 | 41 | 14 | 9 | 99 |
| Housekeeping | 68 | 29 | 1 | 1 | 103 |
| Amount of tests, drugs | 71 | 28 | — | 1 | 99 |
| Instruction at discharge | 67 | 28 | 2 | 3 | 102 |
| Cost to you | 55 | 28 | 11 | 6 | 40 |

**TABLE 8**

Satisfaction with physician services for six-month period (1985-1986)

| | Very Satisfied | Somewhat Satisfied | Somewhat Dissatisfied | Very Dissatisfied | N |
|---|---|---|---|---|---|
| Number of tests & procedures | 59% | 36% | 4% | 1% | 960 |
| Availability at night & weekends | 52 | 34 | 10 | 4 | 798 |
| Availability when needed at other times | 57 | 38 | 3 | 1 | 947 |
| Time spent with patient | 56 | 35 | 7 | 2 | 994 |
| Ease of getting an appointment | 61 | 32 | 6 | 1 | 995 |
| Amount of care & treatment given | 63 | 32 | 4 | 1 | 991 |
| Willingness to listen to complaints | 67 | 27 | 4 | 2 | 988 |
| Amount of information given | 59 | 33 | 6 | 2 | 995 |
| Amount of medicine prescribed | 60 | 36 | 3 | 1 | 936 |
| Cost of services | 46 | 37 | 13 | 4 | 915 |
| Willingness to discuss charges | 50 | 38 | 8 | 3 | 552 |
| Willingness to work out of hospital | 51 | 40 | 5 | 3 | 409 |

NOTE: Some percentages do not add to 100% because of rounding.

**TABLE 9**
Satisfaction with physician services by health plan for six-month period (1985-1986)

| | | Cost of services | | | | Amount of care and treatment given | | | | Time spent with patients | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | VS | SS | SD | VD | VS | SS | SD | VD | VS | SS | SD | VD |
| HMO | N | 190 | 72 | 12 | 4 | 194 | 110 | 13 | 1 | 176 | 121 | 19 | 4 |
| | % | 68.6 | 26 | 4.3 | 1.4 | 61 | 34.6 | 4.1 | .3 | 55 | 37.8 | 6 | 1.2 |
| FFS | N | 114 | 173 | 61 | 25 | 244 | 126 | 12 | 4 | 212 | 136 | 28 | 9 |
| | % | 30.6 | 46.4 | 16.4 | 6.7 | 63.2 | 32.7 | 3.1 | 1 | 55 | 35.3 | 7.3 | 2.4 |
| Medicare with supplement | N | 53 | 33 | 21 | 3 | 81 | 32 | 7 | 0 | 81 | 26 | 13 | 2 |
| | % | 48.2 | 30 | 19.1 | 2.7 | 67.5 | 26.7 | 5.9 | 0 | 66.4 | 21.3 | 10.7 | 1.6 |
| Govt. only | N | 15 | 11 | 1 | 1 | 24 | 12 | 0 | 0 | 21 | 11 | 4 | 0 |
| | % | 53.6 | 39.3 | 3.6 | 3.6 | 66.7 | 33.3 | 0 | 0 | 58.3 | 30.6 | 11.1 | 0 |
| No insurance | N | 13 | 19 | 14 | 7 | 30 | 19 | 3 | 1 | 29 | 14 | 8 | 1 |
| | % | 24.5 | 35.9 | 26.4 | 13.2 | 56.6 | 35.9 | 5.6 | 1.9 | 55.8 | 27 | 15.3 | 2 |
| | | $X^2=125.7$; df=12; $p=<.001$ | | | | $X^2=10.2$; df=12; $p=.600$ | | | | $X^2=19.7$; df=12; $p=.074$ | | | |

| | | Availability nights & weekends | | | | Ease getting an appointment | | | | Amount of Information given to patient | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | VS | SS | SD | VD | VS | SS | SD | VD | VS | SS | SD | VD |
| HMO | N | 127 | 96 | 34 | 9 | 181 | 114 | 23 | 5 | 177 | 116 | 20 | 9 |
| | % | 47.7 | 36 | 12.8 | 3.3 | 56 | 35.3 | 7.1 | 1.6 | 55 | 36 | 6.2 | 2.8 |
| FFS | N | 159 | 107 | 33 | 11 | 228 | 132 | 21 | 5 | 223 | 133 | 22 | 6 |
| | % | 51.3 | 34.5 | 10.6 | 3.5 | 59 | 34.2 | 5.4 | 1.3 | 58 | 34.6 | 5.7 | 1.6 |
| Medicare with supplement | N | 52 | 30 | 7 | 3 | 85 | 32 | 3 | 1 | 82 | 29 | 9 | 2 |
| | % | 56.5 | 32.6 | 7.6 | 3.2 | 70.2 | 26.5 | 2.5 | .8 | 67.2 | 23.8 | 7.4 | 1.6 |
| Govt. only | N | 14 | 10 | 0 | 0 | 24 | 12 | 0 | 0 | 22 | 12 | 2 | 0 |
| | % | 58.3 | 41.7 | 0 | 0 | 66.7 | 33.3 | 0 | 0 | 61.1 | 33.3 | 5.6 | 0 |
| No insurance | N | 22 | 10 | 4 | 2 | 36 | 14 | 1 | 1 | 30 | 14 | 5 | 3 |
| | % | 57.9 | 26.3 | 10.5 | 5.3 | 69.2 | 27 | 2 | 2 | 57.7 | 27 | 9.6 | 5.8 |
| | | $X^2=8.8$; df=12; $p=.723$ | | | | $X^2=14.8$; df=12; $p=.255$ | | | | $X^2=13.8$; df=12; $p=.312$ | | | |

VS - Very satisfied, SS - Somewhat satisfied, SD - Somewhat dissatisfied, VD - Very dissatisfied, NA - Not applicable

## Discussion

Several important findings are evident from these data. First, the uninsured population is somewhat smaller than anticipated. Only 5.5% of the responding households had no health insurance coverage for anyone in the household; 6.4% of the *individuals* in the survey were without health insurance. Since the data were collected by means of telephone interviews, one might speculate that the sample may be biased somewhat toward higher-income families who have telephones. Other surveys have shown, however, that only 3% of households in the Minneapolis/St. Paul metropolitan area do not have telephones. Moreover, the insurance enrollment findings (such as HMO enrollment) are consistent with other data reported for the metropolitan area. Therefore, it appears that this sample is a reasonably accurate reflection of the entire population.

The largest group of uninsured is made up of relatively young, unmarried, employed persons. Over half have incomes between $10,000 and $30,000 per year. For 10% of the married couples, one person is uninsured. Clearly, in this community, the uninsured population is not predominantly an unemployment problem. Instead, a large portion of this population is made up of self-employed persons who, for whatever reason, do not buy health insurance or are employed by companies that do not offer health insurance coverage.

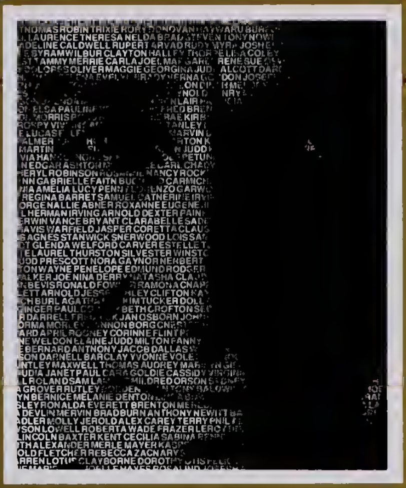
Our data also indicate that most of the uninsured use physician offices for their care. Either they are paying for those services out of pocket, or physicians are giving uncompensated care that is not being documented. Because many of the uninsured appear to have relatively high incomes, they may be in a position to easily pay for most physician services themselves. Hospital services, because of greater cost, would be a different problem. Public policies aimed at improving health insurance coverage in Minnesota must recognize these special conditions of the uninsured.

A second finding of considerable importance is that over 85% of Medicare recipients have some type of supplemental insurance. Future studies in this project will examine the out-of-pocket costs of Medicare recipients with and without a health plan supplement. The extent of supplemental coverage is not currently documented, but findings from other studies indicate that these supplemental health insurance policies are very expensive in terms of benefit costs. It, therefore, appears that the over-65 population in Minnesota is spending a considerable amount of money to gain rather limited supplementary benefits to their Medi-

**Consumers** *to page 369*

# EXPECT YOUR NEXT PATIENT ON INDERAL® LA TO...

(PROPRANOLOL HCl)
LONG ACTING CAPSULES 60, 80, 120, 160 mg



Please see brief summary of prescribing information.

*Feel like a*

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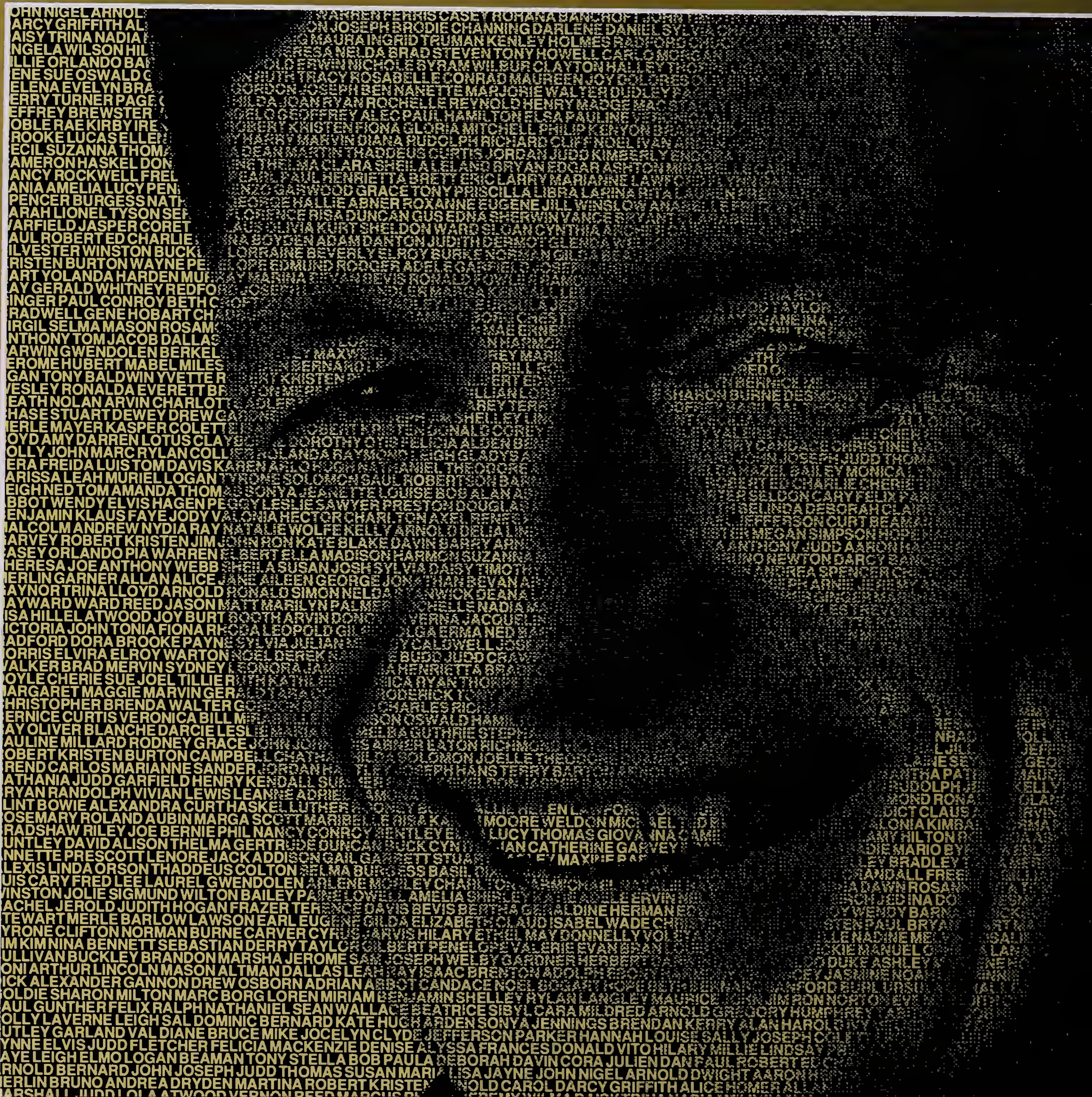

# ON

OBERT KRISTEN ARNOLD
ARCUS RHODA JEREMY
LIAN FLOYD ELLIOTT HAR
Y MYRA JOSH EDWARDA
AMMY MERRIE CARLA JO
LEY IRIS STEPHANIE CHA
A JESSICA BERNARD MA
IE BLAIR PATRICIA MIL
ANNON MORRIS BOND
AHAM ELEANORE GIN
ORE CLAY PEARCE G
NICOLE PETUNIA HA
LEE CHERYL ROBINS
RVIN HUNTER NEVIN
RTLAND COLEMAN
ER PAINE JANE SH
AWLEY KATHERINE
E IRMA MYLES JULI
INETTE LAUREL TH
RANDALL PHYLLIS
RION JULIUS GLEN
JESSE ASHLEY CLIF
ANCHE ROBIN JACQ
RK NOAH STEWART
ORINNE FLINT PRESL
RON NORTON JULIE
SHIRLEY HARPER PE
OLDIE CASSIDY VIRGI
N LYDIA GROVER RUTL
SIBYL NOEL HUMPHR
L BILL LILLIAN MARLE
ADE FRAZER LEROY D
S MEREDITH ALEXAND
ESMOND TONY HILARY
ERTA LEONORA BAR
ENNIS CULLEN TABIT
RENDAN GUNTHER E
MARIO JAYNE MELIS
SPER VITO NICHOLA
Y JONATHAN SALLY
ON SEAN WALDEN RO
RT DIANE JENNIFER L
LLEEN DWIGHT MITCH
INGRID CHANNING LIN
ANSON ANDREW GALL
ER ROXANNE ASHBY HAR
A TRIXIE RORY BAYARD CH
JOSEPH PAGE JULIE REX RE
LEONA RUDY MARCUS SLOAN
RA DONNA CRAIG ANNE ELMER
RAM ADELINE HALLEY MILFORD D
ON PRISCILLA WILSON RUPERT HARR
ATH STEVEN BRONSON JEAN PETER DIAN
NE LORNA ROBERTA NOBLE TOM SABINA
T MIA BARTLETT BEAU DINAH JIM FRITZ D
INE CECILIA TAMARA BEN ROSABELLE JU
LE SIMPSON BERNARD ERROL CORETTA
VERETT MARGO LENA LORENZO CLIFF R
N MARTIN THOMAS TONY COLEMAN LUCI
DEN REBECCA COURTNEY NICOLE BREWS
R RHONDA TURNER MADELINE ELLEN MO
OWLER JANET TONY THOMAS ROBERTSO
T ROBIN HARDEN BRETT NEIL BORDEN O
WATSON GEORGIA BARCLAY ODESSA
ADWICK APRIL TODD ARDEN LAUR
A MABEL SHERWIN PAT IDA GINA
ARD ARNOLD HILLIARD SILVES
ORA DONAHUE EGAN MURRA
AMDEN EDNA MILES ALBER
RUSSEL AUDREY ELI DEW
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...like the more than one million patients who have received INDERAL® LA.

In a recent survey, 4,120 participating physicians gave us their views[1] on INDERAL LA in the treatment of hypertension, angina and migraine.

## INDERAL LA is their preferred beta blocker

...of the nearly three out of four physicians responding to the questionnaire, an impressive 97% rated INDERAL LA good to excellent for overall performance. Virtually all cited efficacy, tolerability, long-term cardiovascular protection and once-daily convenience as important factors in their choosing to prescribe INDERAL LA.

## INDERAL LA promotes patient compliance

...Virtually every responding physician rated patient satisfaction with INDERAL LA to be as good as, or better than, other beta blockers.

Like conventional INDERAL Tablets, INDERAL LA should not be used in the presence of congestive heart failure, sinus bradycardia, cardiogenic shock, heart block greater than first degree and bronchial asthma.

**ONCE-DAILY**

**INDERAL® LA**

(PROPRANOLOL HCl)

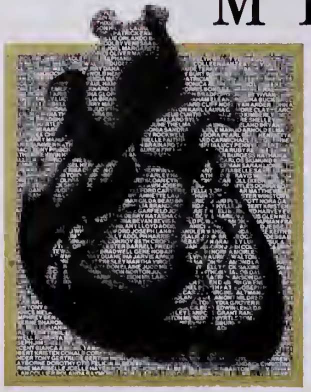
**LONG ACTING CAPSULES**
**60, 80, 120, 160 mg**

## The one you know best keeps looking better

Please see next page for brief summary of prescribing information.

*feel like a*

# MILLION

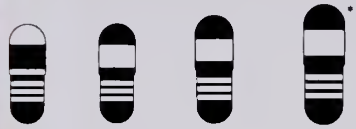


ONCE-DAILY

## INDERAL® LA

(PROPRANOLOL HCI) LONG ACTING CAPSULES 60, 80, 120, 160 mg

## The one you know best keeps looking better



60 mg 80 mg 120 mg 160 mg*

BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR.)*

**INDERAL® LA** brand of propranolol hydrochloride **(Long Acting Capsules)**

**DESCRIPTION.** INDERAL LA is formulated to provide a sustained release of propranolol hydrochloride. INDERAL LA is available as 60 mg, 80 mg, 120 mg, and 160 mg capsules.

**CLINICAL PHARMACOLOGY.** INDERAL is a nonselective, beta-adrenergic receptor-blocking agent possessing no other autonomic nervous system activity. It specifically competes with beta-adrenergic receptor-stimulating agents for available receptor sites. When access to beta-receptor sites is blocked by INDERAL, the chronotropic, inotropic, and vasodilator responses to beta-adrenergic stimulation are decreased proportionately.

INDERAL LA Capsules (60, 80, 120, and 160 mg) release propranolol HCl at a controlled and predictable rate. Peak blood levels following dosing with INDERAL LA occur at about 6 hours and the apparent plasma half-life is about 10 hours. When measured at steady state over a 24-hour period the areas under the propranolol plasma concentration-time curve (AUCs) for the capsules are approximately 60% to 65% of the AUCs for a comparable divided daily dose of INDERAL Tablets. The lower AUCs for the capsules are due to greater hepatic metabolism of propranolol, resulting from the slower rate of absorption of propranolol. Over a twenty-four (24) hour period, blood levels are fairly constant for about twelve (12) hours then decline exponentially.

INDERAL LA should not be considered a simple mg-for-mg substitute for conventional propranolol and the blood levels achieved do not match (are lower than) those of two to four times daily dosing with the same dose. When changing to INDERAL LA from conventional propranolol, a possible need for retitration upwards should be considered especially to maintain effectiveness at the end of the dosing interval. In most clinical settings, however, such as hypertension or angina where there is little correlation between plasma levels and clinical effect, INDERAL LA has been therapeutically equivalent to the same mg dose of conventional INDERAL as assessed by 24-hour effects on blood pressure and on 24-hour exercise responses of heart rate, systolic pressure, and rate pressure product. INDERAL LA can provide effective beta blockade for a 24-hour period.

**INDICATIONS AND USAGE. Hypertension:** INDERAL LA is indicated in the management of hypertension; it may be used alone or used in combination with other antihypertensive agents, particularly a thiazide diuretic. INDERAL LA is not indicated in the management of hypertensive emergencies.

**Angina Pectoris Due to Coronary Atherosclerosis:** INDERAL LA is indicated for the long-term management of patients with angina pectoris.

**Migraine:** INDERAL LA is indicated for the prophylaxis of common migraine headache. The efficacy of propranolol in the treatment of a migraine attack that has started has not been established and propranolol is not indicated for such use.

**Hypertrophic Subaortic Stenosis:** INDERAL LA is useful in the management of hypertrophic subaortic stenosis, especially for treatment of exertional or other stress-induced angina, palpitations, and syncope. INDERAL LA also improves exercise performance. The effectiveness of propranolol hydrochloride in this disease appears to be due to a reduction of the elevated outflow pressure gradient which is exacerbated by beta-receptor stimulation. Clinical improvement may be temporary.

**CONTRAINDICATIONS.** INDERAL is contraindicated in 1) cardiogenic shock; 2) sinus bradycardia and greater than first-degree block; 3) bronchial asthma; 4) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL.

**WARNINGS.** CARDIAC FAILURE: Sympathetic stimulation may be a vital component supporting circulatory function in patients with congestive heart failure, and its inhibition by beta blockade may precipitate more severe failure. Although beta blockers should be avoided in overt congestive heart failure, if necessary, they can be used with close follow-up in patients with a history of failure who are well compensated and are receiving digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart muscle.

IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta blockers can, in some cases, lead to cardiac failure. Therefore, at the first sign or symptom of heart failure, the patient should be digitalized and/or treated with diuretics, and the response observed closely, or INDERAL should be discontinued (gradually, if possible).

> IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following *abrupt* discontinuance of INDERAL therapy. Therefore, when discontinuance of INDERAL is planned, the dosage should be gradually reduced over at least a few weeks, and the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications.

**Nonallergic Bronchospasm (eg, chronic bronchitis, emphysema)**—PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA BLOCKERS. INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors.

MAJOR SURGERY: The necessity or desirability of withdrawal of beta-blocking therapy prior to major surgery is controversial. It should be noted, however, that the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures.

INDERAL (propranolol HCl), like other beta blockers, is a competitive inhibitor of beta-receptor agonists and its effects can be reversed by administration of such agents, eg, dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in starting and maintaining the heartbeat has also been reported with beta blockers.

DIABETES AND HYPOGLYCEMIA: Beta blockers should be used with caution in diabetic patients if a beta-blocking agent is required. Beta blockers may mask tachycardia occurring with hypoglycemia, but other manifestations such as dizziness and sweating may not be significantly affected. Following insulin-induced hypoglycemia, propranolol may cause a delay in the recovery of blood glucose to normal levels.

THYROTOXICOSIS: Beta blockade may mask certain clinical signs of hyperthyroidism. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism, including thyroid storm. Propranolol may change thyroid function tests, increasing $T_4$ and reverse $T_3$, and decreasing $T_3$.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case this resulted after an initial dose of 5 mg propranolol.

**PRECAUTIONS.** GENERAL: Propranolol should be used with caution in patients with impaired hepatic or renal function. INDERAL (propranolol HCl) is not indicated for the treatment of hypertensive emergencies.

Beta-adrenoreceptor blockade can cause reduction of intraocular pressure. Patients should be told that INDERAL may interfere with the glaucoma screening test. Withdrawal may lead to a return of increased intraocular pressure.

CLINICAL LABORATORY TESTS: Elevated blood urea levels in patients with severe heart disease, elevated serum transaminase, alkaline phosphatase, lactate dehydrogenase.

DRUG INTERACTIONS: Patients receiving catecholamine-depleting drugs such as reserpine should be closely observed if INDERAL (propranolol HCl) is administered. The added catecholamine-blocking action may produce an excessive reduction of resting sympathetic nervous activity which may result in hypotension, marked bradycardia, vertigo, syncopal attacks, or orthostatic hypotension.

Caution should be exercised when patients receiving a beta blocker are administered a calcium-channel-blocking drug, especially intravenous verapamil, for both agents may depress myocardial contractility or atrioventricular conduction. On rare occasions, the concomitant intravenous use of a beta blocker and verapamil has resulted in serious adverse reactions, especially in patients with severe cardiomyopathy, congestive heart failure, or recent myocardial infarction.

*Aluminum hydroxide gel* greatly reduces intestinal absorption of propranolol.

*Ethanol* slows the rate of absorption of propranolol.

*Phenytoin, phenobarbitone,* and *rifampin* accelerate propranolol clearance.

*Chlorpromazine,* when used concomitantly with propranolol, results in increased plasma levels of both drugs.

*Antipyrine* and *lidocaine* have reduced clearance when used concomitantly with propranolol.

*Thyroxine* may result in a lower than expected $T_3$ concentration when used concomitantly with propranolol.

*Cimetidine* decreases the hepatic metabolism of propranolol, delaying elimination and increasing blood levels.

*Theophylline* clearance is reduced when used concomitantly with propranolol.

CARCINOGENESIS, MUTAGENESIS, IMPAIRMENT OF FERTILITY: Long-term studies in animals have been conducted to evaluate toxic effects and carcinogenic potential. In 18-month studies in both rats and mice, employing doses up to 150 mg/kg/day, there was no evidence of significant drug-induced toxicity. There were no drug-related tumorigenic effects at any of the dosage levels. Reproductive studies in animals did not show any impairment of fertility that was attributable to the drug.

PREGNANCY: Pregnancy Category C. INDERAL has been shown to be embryotoxic in animal studies at doses about 10 times greater than the maximum recommended human dose.

There are no adequate and well-controlled studies in pregnant women. INDERAL should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

NURSING MOTHERS: INDERAL is excreted in human milk. Caution should be exercised when INDERAL is administered to a nursing woman.

PEDIATRIC USE: Safety and effectiveness in children have not been established.

**ADVERSE REACTIONS.** Most adverse effects have been mild and transient and have rarely required the withdrawal of therapy.

*Cardiovascular:* Bradycardia; congestive heart failure; intensification of AV block; hypotension; paresthesia of hands; thrombocytopenic purpura; arterial insufficiency, usually of the Raynaud type.

*Central Nervous System:* Light-headedness; mental depression manifested by insomnia, lassitude, weakness, fatigue; reversible mental depression progressing to catatonia; visual disturbances; hallucinations; vivid dreams; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics. For immediate formulations, fatigue, lethargy, and vivid dreams appear dose related.

*Gastrointestinal:* Nausea, vomiting, epigastric distress, abdominal cramping, diarrhea, constipation, mesenteric arterial thrombosis, ischemic colitis.

*Allergic:* Pharyngitis and agranulocytosis, erythematous rash, fever combined with aching and sore throat, laryngospasm and respiratory distress.

*Respiratory:* Bronchospasm.

*Hematologic:* Agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura.

*Auto-Immune:* In extremely rare instances, systemic lupus erythematosus has been reported.

*Miscellaneous:* Alopecia, LE-like reactions, psoriasiform rashes, dry eyes, male impotence, and Peyronie's disease have been reported rarely. Oculomucocutaneous reactions involving the skin, serous membranes and conjunctivae reported for a beta blocker (practolol) have not been associated with propranolol.

**DOSAGE AND ADMINISTRATION.** INDERAL LA provides propranolol hydrochloride in a sustained-release capsule for administration once daily. If patients are switched from INDERAL Tablets to INDERAL LA Capsules, care should be taken to assure that the desired therapeutic effect is maintained. INDERAL LA should not be considered a simple mg-for-mg substitute for INDERAL. INDERAL LA has different kinetics and produces lower blood levels. Retitration may be necessary, especially to maintain effectiveness at the end of the 24-hour dosing interval.

HYPERTENSION—*Dosage must be individualized.* The usual initial dosage is 80 mg INDERAL LA once daily, whether used alone or added to a diuretic. The dosage may be increased to 120 mg once daily or higher until adequate blood pressure control is achieved. The usual maintenance dosage is 120 to 160 mg once daily. In some instances a dosage of 640 mg may be required. The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks.

ANGINA PECTORIS—*Dosage must be individualized.* Starting with 80 mg INDERAL LA once daily, dosage should be gradually increased at three- to seven-day intervals until optimal response is obtained. Although individual patients may respond at any dosage level, the average optimal dosage appears to be 160 mg once daily. In angina pectoris, the value and safety of dosage exceeding 320 mg per day have not been established.

If treatment is to be discontinued, reduce dosage gradually over a period of a few weeks (see WARNINGS).

MIGRAINE—*Dosage must be individualized.* The initial oral dose is 80 mg INDERAL LA once daily. The usual effective dose range is 160-240 mg once daily. The dosage may be increased gradually to achieve optimal migraine prophylaxis. If a satisfactory response is not obtained within four to six weeks after reaching the maximal dose, INDERAL LA therapy should be discontinued. It may be advisable to withdraw the drug gradually over a period of several weeks.

HYPERTROPHIC SUBAORTIC STENOSIS—80-160 mg INDERAL LA once daily.

PEDIATRIC DOSAGE—At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use.

*The appearance of these capsules is a registered trademark of Ayerst Laboratories.

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**Reference:**

1. Data on file, Ayerst Laboratories.

D7295/188

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# A Comparison of Birth Outcomes by Payment Source

*Sara Ellen Mullett, R.N., M.P.H.; Barbara J. Leonard, R.N., Ph.D.; Charles N. Oberg, M.D., M.P.H.; and Betty Lia-Hoagberg, R.N., Ph.D.*

**Adequate prenatal care has been identified as a major factor in the facilitation of positive birth outcomes. Such care has helped reduce the number of infants born prematurely or with low birthweight. However, an increasing number of women are uninsured for all or part of essential prenatal care services. This study demonstrates the relationship between source of payment and birth outcomes for a high-risk sample of women in Minneapolis. The study revealed financial access to care significantly decreased adverse birth outcomes, such as preterm births, low infant birthweight, and the use of newborn intensive care services. In addition, the uninsured women who had access to a public health program that emphasized comprehensive prenatal care had outcomes similar to those of women with private insurance and had better overall prenatal care than those with Medical Assistance.**

The birth of a healthy infant is correlated with access to early and appropriate prenatal care. Adequate and comprehensive prenatal care has been shown to increase infant birthweight and decrease subsequent perinatal mortality.[1-5] The Institute of Medicine report on the prevention of low birthweight indicated that prenatal care is particularly beneficial to socioeconomically and medically high-risk women.[6] Socioeconomically disadvantaged women often do not receive adequate prenatal care. Women least likely to receive adequate prenatal care are younger (less than 18), minority, single women with less than high school education.[7-9]

The number of pregnant women who did not receive adequate prenatal care steadily decreased from 1969 through 1980. Recently, however, there has been a leveling off and a reversal of this trend. The Institute of Medicine study noted that the proportion of women receiving inadequate prenatal care has stopped decreasing and has, in fact, increased. In 1984, 5% of white mothers (as compared with 4% in 1981) and 10% of black mothers (as compared with 9% in 1981) had inadequate prenatal care.[10] In 1982, 5% of all pregnant women in the United States received either no prenatal care or none until the third trimester, and 18% did not get care until the second trimester.[11]

The purpose of this study was to determine the relationship of the source of payment for prenatal care with the adequacy of that care and birth outcomes. This information is needed to develop health care policy supportive of the needs of pregnant women and their children.

## Barriers to Prenatal Care

Women may not be receiving adequate prenatal care because they lack access to providers, particularly in rural areas, or because of providers' unwillingness to care for socially disadvantaged and/or high-risk women. Currently, only 40% of providers serve pregnant women with Medical Assistance.[12] Other reasons include lack of transportation or child-care services. The experiences, attitudes, and beliefs of the women themselves also influence the amount of care they receive.

Four regional conferences convened by the Department of Health and Human Services on access to prenatal care in 1986 classified non-financial barriers to prenatal care into three broad categories: public policy/system barriers, provider barriers, and patient barriers. The study concluded that the inability to pay for care is closely related to many of the system, provider, and patient barriers currently a part of American maternity care.[13]

A study of women receiving care through the Hennepin County Community Clinics in Minnesota found the cost of care was a problem for approximately one-fourth of their patients.[14] Controlling for differences in ethnicity, health habits, and complications of pregnancy, Binsacca et al. demonstrated a sixfold increase in the risk of a low birthweight associated with financial problems during pregnancy.[15]

Private group insurance through employment is the most common source of payment for health care coverage. Approximately two-thirds of civilian women aged 15-44 are covered by group policies. Ten percent of women of reproductive age are covered by privately purchased individual insurance policies; 3% are covered through the Uniformed Services program for military dependents; 9% have coverage through Medical Assistance. Seventeen percent of women ages 15-44 have no insurance coverage through either a public or private source.[11] Women in need of prenatal care are disproportionately represented among the uninsured.

Medical Assistance, or Title XIX of the Social Security Act, enacted in 1965, created a financial source of care for low-income persons meeting specific eligibility requirements and is the primary public insurance source of care for many people living below federal poverty standards. In 1986, federal and state Medical Assistance expenditures exceeded $40 billion, but only 12% of expenditures were for adults from families who were eligible for Aid to Families with Dependent Children (AFDC).[16] These are largely poor women in need of prenatal and postpartum care. Due to categorical restrictions, many poor or borderline-poor women are ineligible for Medical Assistance. In 1984, only four out of ten women of reproductive age with family incomes below the poverty level received Medical Assistance coverage.[12]

Because Medical Assistance is a federal-state partnership, states have authority to set income standards and eligibility requirements. In some states, a relatively small percentage of poor expectant women are covered by the program. During the 1970s and early 1980s, substantial changes in the Medical Assistance program tightened eligibility, decreased services, and lowered reimbursement levels in an attempt to minimize the continued rapid growth of the program. This trend was strengthened with the passage of the Omnibus Budget Reconciliation Act of 1981 (OBRA).

OBRA reduced the federal contribution to the Medical Assistance program for three consecutive years. In addition, OBRA called for many changes in the AFDC program, eliminating close to a half-million families from the Medical Assistance program and leaving them uninsured and uncovered for their health care needs.[17] Between 1975 and 1985, the number of persons living in or near poverty who were covered by the Medical Assistance program decreased from 63% to 45%.[18]

Until recently, even women eligible and covered by the Medical Assistance program were inadequately covered for their maternity care. These women typically did not become eligible for Medical Assistance until their third trimester. They were uninsured during the most critical period of the pregnancy. Cushman et al. estimate that 80% of Minnesota's MIC population is not receiving regular obstetric care.[19]

## Methods

A stratified random sample of the 1,641 births during 1985 at Hennepin County Medical Center was studied. The mothers were divided into three groups by payment source: women whose care was paid for by Medical Assistance, those whose care was paid for by private insurance, and those who were uninsured at the time of their hospitalization for maternity care.

The source of payment for maternity care was obtained from the mother's medical record. Of the 82 women, 21 had private insurance, 22 received Medical Assistance, 18 received their prenatal care through government-subsidized free maternity clinics, and 21 uninsured mothers had no identifiable source of payment for prenatal care.

The chart review included demographic and birth-outcome information. Demographic factors considered were age, marital status, education, race, and the number of previous pregnancies. In addition, lifestyle risk factors, including tobacco, alcohol, and drug use, were ascertained. Infant outcomes included birthweight, gestational age at birth, one- and five-minute Apgar scores, number of hospital days in the nursery, and infant complications. Maternal outcomes included utilization of prenatal care, adequacy of prenatal care, type of delivery, complications during labor and delivery, complications during the postpartum period, and number of postpartum days in the hospital.

Prenatal care utilization was measured by the number of prenatal care visits. Adequacy of care was determined using Kessner's Index, which classifies care as adequate, intermediate, and inadequate, according to the trimester care was started, the gestational age at delivery, and the number of prenatal visits. Adequate prenatal care is care started in the first trimester, with at least nine visits by 36 weeks' gestation. Inadequate care is started at 28 weeks or later, with four or fewer visits by 34 weeks' gestation.[8,20]

## Results

Demographic factors analyzed for differences between the groups included education, marital status, ethnic background, age, and the number of previous pregnancies. Marital status was a highly significant factor ($p < 0.001$), with women on Medical Assistance more likely to be single than any other group. The Medical Assistance sample includes 18.3% who were single mothers, as compared with less than 10% in each of the other groups. Eligibility criteria to receive Medical Assistance were factors in marital status differences between the groups. Women with Medical Assistance as a source of payment were less likely to have completed high school ($p < 0.05$). No differences in age, ethnicity, or number of previous pregnancies were found between the groups. None of the lifestyle risk factors (smoking, alcohol and drug use) was statistically significant.

Chi-square analysis of infant birthweight for the 82 women by race, marital status, and education showed a significant difference in outcome ($p < 0.05$). Minority women (black, Native American, Southeast Asian) had infants with a mean birthweight of 3,238 grams, as compared with 3,534 for infants of Caucasian women. Single women had smaller infants, with a mean birthweight of 3,192 grams, as compared with 3,534 grams for infants of married women. Women with less than a high school education had infants with a mean birthweight of 3,180 grams; and women with more education had larger infants, with a mean birthweight of 3,510 grams.

Utilization of care (frequency of prenatal care visits) was significantly different ($p < 0.01$) among the four groups of women. Mothers with private insurance had the most visits, with a mean of 11.8. Women attending a "free" clinic had the second highest number of visits, with a mean of 10.7. Uninsured mothers had a mean of 9.1 visits, and Medical Assistance mothers had the least number of prenatal visits, with a mean of 7.9 (Figure 1).

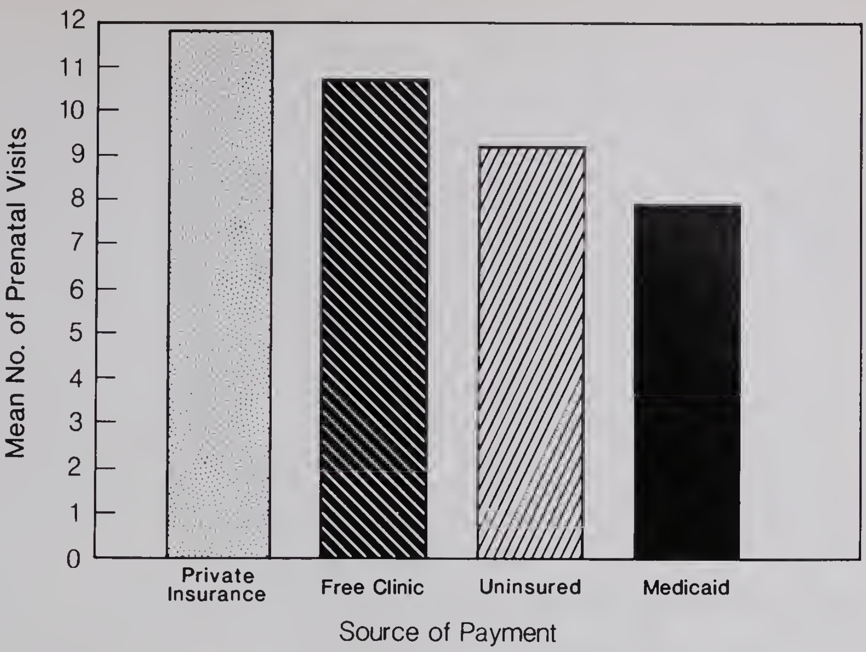

FIGURE 1—Number of prenatal care visits, by payment group.

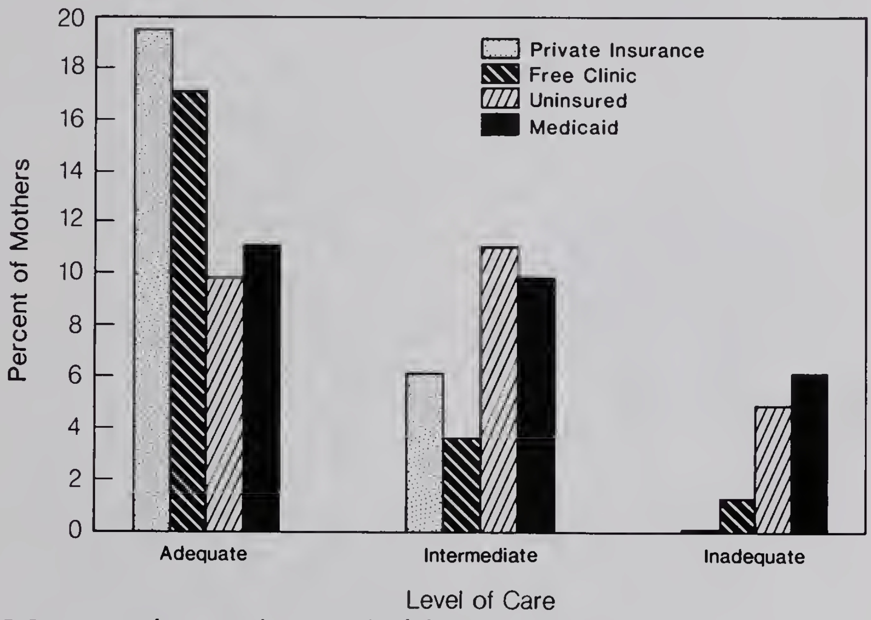

FIGURE 2—Adequacy of care received, by payment group.

Using Kessner's Index, the adequacy of care for the sample population was compared with source of payment by chi-square analysis. More than half the sample (57.3%) had adequate prenatal care; 30.5% had intermediate prenatal care; and 12.2% had inadequate prenatal care.

There was a significant difference between the adequacy of prenatal care by payment source (Figure 2). None of the mothers with private insurance and only 1% of uninsured mothers who attended a "free" clinic had inadequate care. In comparison, 6.1% of mothers with Medical Assistance and 4.9% of the remaining uninsured women received inadequate care. When those who received intermediate and inadequate care were combined and compared with those with adequate care, there was a statistically significant difference ($p < 0.01$) between the four payment groups.

Two birth-outcome variables for infants were significant: infant birthweight and gestational age. Analysis of Variance (ANOVA) on birthweight by adequacy of prenatal care demonstrated highly significant differences in outcomes ($p < 0.05$). Women who had adequate care had the larger infants. Gestational age was also statistically significant ($p < 0.01$), demonstrating that women with adequate care were more likely to have term infants.

Data on infant birth outcomes, including birthweight, gestational age at birth, one- and five-minute Apgar scores, days in the hospital, and complications at birth, were compared across the four payment source groups.

Mothers with private insurance had the largest babies, with a mean birthweight of 3,767 grams (Figure 3). Medical Assistance mothers had infants with the lowest birthweight, with a mean of 3,048 grams. "Free" clinic and other uninsured mothers had infants with similar outcomes, with a mean birthweight of 3,466 and 3,428 grams, respectively.

Birthweight and the use of a Newborn Intensive Care Unit (NICU) were statistically significant using ANOVA ($p < 0.05$); 8.5% of infants whose mothers received Medical Assistance were admitted to NICUs, significantly more than any other group ($p < 0.05$). None of the infants whose mothers had private insurance needed NICU care, and 1.2% of infants whose mothers were uninsured required admission to intensive care.

To control for the influence of demographic differences, a multiple linear regression was conducted using the following variables: adequacy of care, payment source, race, marital status,

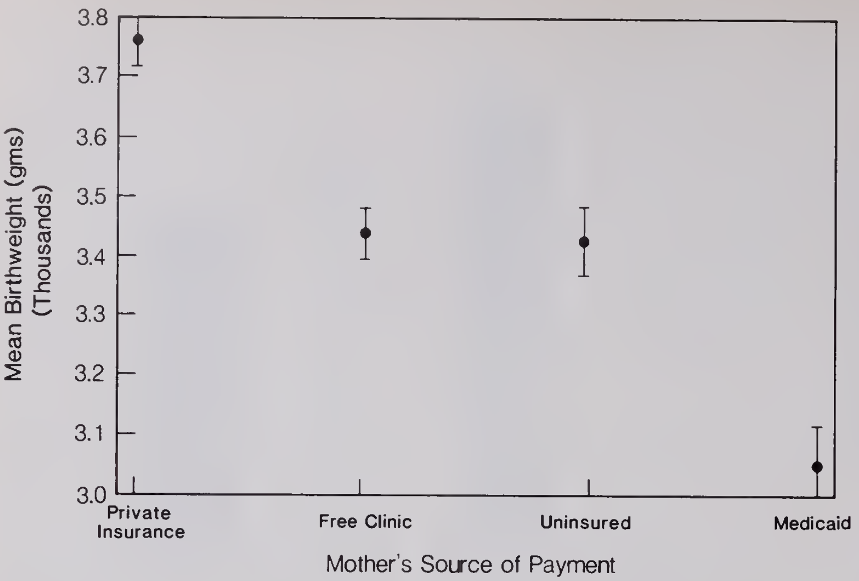

**FIGURE 3—Mean birthweight, compared by mother's source of health care payment.**

education, age, and parity. Source of payment and adequacy of care combined accounted for 25% of the variance ($r < 0.25$) and was significant at the $p < 0.0001$ level. Source of payment alone was responsible for 19% of the variance. Consequently, if a mother had private insurance, her infant could be predicted to weigh 309 grams more than the infants of women who had Medical Assistance or were uninsured. A composite of all variables accounted for a total of 36% of the variance for the birthweight variable.

## Discussion

Women with a private source of payment for prenatal care had significantly more adequate prenatal care. Low-income women who attended a "free" public health maternity clinic were more likely to also have adequate prenatal care. Women who were uninsured and those with Medical Assistance tended to delay care, with a greater proportion being classified as having intermediate and inadequate care. Women in this study who used Medical Assistance as their payment source, in addition to having less adequate prenatal care, also had poorer birth outcomes, and their infants required a greater amount of time in the NICU. Although demographic differences between the groups account for some of the outcome differences observed, the results suggest that having a source of payment for prenatal care facilitates more adequate care and better birth outcomes. The study supports the fact that women with adequate prenatal care have infants with higher birthweights. The findings suggest that adequate prenatal care will ultimately be cost effective by facilitating the birth of larger, healthier, term infants, therefore decreasing the need for more expensive medical intervention after birth.

Women in Minnesota without the financial resources for prenatal care should be a major concern for physicians, other health care providers, and persons responsible for health policy formation. At a time when there are increasing limitations on health care resources, it is important to use these resources well.

In this study, those women with Medical Assistance as their payment source appeared to be most at risk. They tended to be single, less educated, and poor. Evaluation of maternal outcomes demonstrated that they had a higher percentage of inadequate prenatal care and a greater proportion of small and preterm infants. One possible explanation for these problems is that, until 1985, the majority of women with Medical Assistance did not become eligible for benefits until the third trimester. By that time, the greatest benefits from prenatal care and the impact of intervention has already passed.

Since 1984, a series of federal and state legislative initiatives known as the Child Health Assurance Program (CHAP) have been enacted and should improve health coverage for these at-risk women. The first amendments were included in The Deficit Reduction Act of 1984 (DEFRA). This act changed the eligibility requirements to include first-time pregnant women and expectant women from two-parent families if other AFDC state income standards were met. DEFRA also altered eligibility so that Medical Assistance coverage of prenatal care commenced at the verification of pregnancy rather than at the beginning of the third trimester. This provision should encourage earlier initiation of care and the greater use of preventive services promoted through comprehensive prenatal care. Although the initial CHAP amendments providing coverage from conception was approved in 1984, a recent report of the Minnesota Coalition on Health demonstrated that many providers and consumers were unaware of the legislative changes.[21]

The CHAP amendments have subsequently been expanded. The Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA), extended prenatal care coverage to women from two-parent families with some income from employment as long as state AFDC income standards are not exceeded. Finally, the Sixth Omnibus Budget Reconciliation Act of 1986 (SOBRA) completed the CHAP amendments to extend benefits to all those previously mentioned with incomes exceeding the various state AFDC standards up to 100% of the federal poverty level. The Minnesota Legislature adopted these changes during the 1987 legislative session.

Continued research is necessary to evaluate the impact of these legislative changes. Such evaluation should help to ensure that all women, independent of income, race, employment, and family status, have access to comprehensive prenatal care services to promote the health and well-being of their children.

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## **Consumers** from page 360

care coverage. A state-sponsored supplementary benefit program could have considerable potential for this population.

Perhaps one of the most important findings of this study is that the majority of respondents are very satisfied with services received during their last episode of illness. Contrary to anecdotal information, the respondents did not indicate dissatisfaction with HMO services. Of the 7.7% who felt that they were discharged from the hospital too soon, half were in HMOs and half were in FFS health plans. HMO enrollees were able to get an appointment to see a physician as soon as FFS patients were and indicated satisfaction with services equal to that of FFS enrollees. These are extremely important findings given the fact that the health care delivery system in the metropolitan Minneapolis/St. Paul area is changing rapidly, and the providers are alleging considerable consumer dissatisfaction over constraints being placed on the use of services by various health plans. Apparently, this dissatisfaction is more perceived than real.

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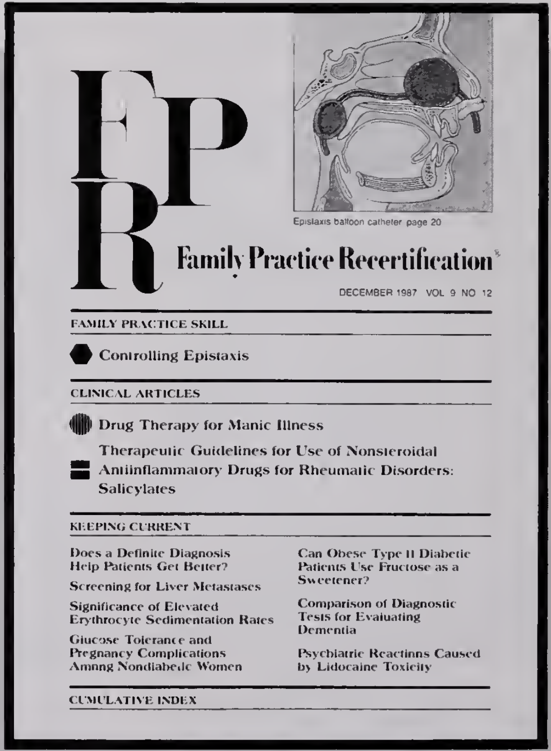

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# Collective Physician Action

## The Climate of Opinion in Minnesota

*Paul Riedesel, Ph.D.*

The idea that prepaid health plans "tie a doctor's hands" disturbs them, but Minnesotans are not ready to support collective action by physicians, according to a recent Minnesota Medical Association (MMA) study. Physicians, themselves, have mixed feelings about the trade-offs involved in several strategies for taking collective action. And Minnesota residents feel ambivalent about the whole concept, because most of them don't understand the contractual relations between physicians and prepaid plans. Many aren't sure whether prepaid plans limit a physician's ability to provide top-notch care, the study found.

The study, completed in March by LEON TYLER Marketing Research of Minneapolis, was commissioned by the MMA to find out how Minnesota residents and physicians feel about collective action as a means of giving doctors more negotiating power with prepaid plans.

Although the public appears to be largely unaware of the fact, few problems are more perplexing to Minnesota health care providers than the limitations imposed by prepaid plans. An earlier study by the MMA found that a majority of the state's physicians believe that prepaid plans have reduced their ability to act as an advocate for their patients ("Competitive Medicine: A Survey of Minnesota Physicians," *Minnesota Medicine*, January 1988).

In response to these concerns, the MMA has examined several options for collective action. To the degree that physicians can form a united front, they should be able to negotiate more desirable contractual terms for themselves and for their patients.

As reported in the January 1988 *Minnesota Medicine* ("Is Collective Bargaining the Answer?"), the principal options are:

- ► a change in federal antitrust laws to permit collective action by independent physicians,
- ► state-supervised collective action, or
- ► the formation of joint ventures to deal collectively with prepaid plans.

A fourth option, offered by a few state medical associations, would be assistance in the form of contract review and analysis. This is not collective action but can enhance the negotiating position of independent physicians by making them aware of key issues.

The MMA's study of collective action included a random telephone survey of 610 Minnesota adults, a mailed survey of 283 Minnesota physicians, and several focus group sessions with nonphysicians.

### Major Findings

Among the most important conclusions drawn from this study were:

- ► Physicians clearly prefer enhanced membership services from the MMA to any external collective action initiative.
- ► The public neither strongly supports nor strongly opposes the collective action options.
- ► Public understanding of the contractual relations between prepaid plans and independent physicians is poor.
- ► Except for the use of generic drugs, the public disapproves of specific cost-control measures imposed by prepaid plans.

### Physician Attitudes on Collective Action

There is no question that Minnesota physicians are often troubled by the results of cost-control measures and prepaid plan rules. One psychiatrist who treats adolescents reported that eight successive HMO patients attempted suicide. He added, "HMOs delay hospitalization too long and put the lives of children in unnecessary peril!"

Another wrote, "As an emergency medicine doctor, I saw a patient with a ruptured ectopic pregnancy whose diagnosis was not made despite four visits to her (HMO), which refused to permit an ultrasound despite high suspicion."

Not all physicians feel this strongly, but only 5% agreed that HMOs have improved the quality of health care. Two-thirds of the physician sample thought it was true to some extent that "HMOs and other prepaid plans limit a physician's ability to diagnose and treat patients."

The question to be wrestled with by the MMA and its members is, what can the association do to preserve the quality of health care?

Collective action might achieve this purpose, but, as the survey revealed, physicians are more comfortable at present with expanded assistance from the association in the form of specific contract review and analysis. This option requires no compromise of physician independence and is a matter of expanding a relationship already in place. The membership endorses the addition of this service to MMA's benefits by a wide margin.

Members of the physician sample were asked to rate all four options on a seven-point scale. A "1" on this scale meant they would "never support" the option; a "7" meant they would "strongly support" it. Table 1 shows the mean (arithmetic average) ratings of the four options. (Because of small sample size, contrasts between medical specialty groups may not be statistically significant.)

No matter where they practice, physicians are more supportive of enhanced MMA contract assistance than of the other options. This was not true within each medical specialty, but the overall pattern is clear. Those outside the metropolitan areas of the state found the idea of joint ventures more attractive than collective action. The opposite was true in the Twin Cities.

## Public Attitudes on Collective Action

The institution of collective action by physicians would certainly require public acceptance of the idea. Nothing would derail the necessary legislation more quickly than opposition from citizen interest groups.

Public preferences for collective action options differed from those of physicians. Minnesota residents were slightly more comfortable with the idea of joint ventures than with either of the legislative approaches. State legislative change rated last, although the differences were slight. (As an internal MMA matter, the contract review services option was not presented to the public.)

Citizens responding to the telephone survey voiced essentially neutral opinions about the two collective action options. Table 2 shows the average ratings given by Minnesota citizens to the three options, which were also evaluated with 7-point rating scales ranging from "strongly oppose" to "strongly support."

The greatest public support for legislative solutions came from younger people and those with lower incomes. This is not necessarily attributable to greater sympathies for unions or collective action *per se*. The more affluent respondents were more likely to feel that collective action would lead to higher health care costs.

## Options for Collective Action

**Federal/State Initiative:** Both Congress and the Minnesota Legislature would have to pass laws exempting independent physicians from current antitrust laws. These laws now limit the right of collective action to employee groups such as labor unions. Because most physicians have an independent practice, they would not qualify. The advantage of this approach, if successful, is that it would impose only minimal new regulations on physicians. The disadvantage is that it would require extensive efforts in both the state and national legislatures.

**Minnesota Initiative:** Minnesota has the right to pass other exemptions to antitrust laws without action by Congress. However, the state would then have to supervise the collective action process and could impose a rate-making process. The advantage of this approach is that it might be simpler to pass legislation in St. Paul than in Washington. The disadvantage is that physicians would come under additional state regulation, i.e., oversight by a state commission or agency.

**Joint Ventures:** Physicians, and perhaps hospitals, could create joint ventures in limited geographic areas. The legal requirements for avoiding antitrust problems are not fully understood. The advantage is that no new legislation or regulation would be needed. The disadvantage is that each physician would probably have less influence than might be possible with true collective action. Also, participating physicians would sacrifice some of their independence to these new corporate entities.

**Additional MMA Assistance:** Two state medical associations offer in-house review and analysis of HMO contracts for member physicians. The staff thus becomes a respository of information about the contracts being offered. They can keep the membership informed about what is happening and can be aware of suggested changes in the contracting environment. Physicians still must deal with the prepaid plans individually, but they often feel more secure and better informed.

A hidden obstacle to state-supervised collective action became apparent in the focus groups. Mention of "state supervision" quickly led some people to envision the state as a provider or gatekeeper. Although erroneous, these perceptions would further confound efforts by the MMA to accomplish such legislative goals.

## Public Confusion

Much of the public ambivalence about collective action was due to the fact that most people do not understand existing contractual relations between physicians and prepaid plans. Thus, they find it difficult to understand physicians' concerns.

When asked if physicians are allowed to bargain collectively over decisions related to treatment policies, half the public sample said they did not know; 23% tend to believe that physicians do have this right. Half aren't sure if physicians can bargain collectively over compensation; 30% tend to believe they can. Two-fifths believe that physicians are reimbursed their regular fees by prepaid plans. An equal number simply don't know.

Other responses show that the public does not share physician concerns over the impacts of HMOs. Where 81% of physicians feel it is not true that such plans have resulted in higher quality health care, only 34% of the public felt it was not true.

Two-thirds of physicians feel that prepaid plans limit a physician's ability to diagnose and treat patients to some degree; 40% of the public shares this perception, but the gap remains.

Many independent physicians are personally familiar with problems in treatment or diagnosis which they attribute to the rules of prepaid plans. However, few members of the public seem to be aware of such problems.

Focus group members could not recall hearing of any cases where patients could not be sent to the doctor's choice of specialist because of HMO rules, could not be admitted to the doctor's choice of hospital, or could not have the tests or treatments the doctor desired. More familiar to older participants were cases where hospitalization was cut short by Medicare policies.

People are uncomfortable with the idea that prepaid plans "tie a doctor's hands" in any way. Said one, "I think it's strange that a doctor cannot voice his opinion at the hospital and keep his patient a little longer if that's the need. I can't understand why they've taken that away from doctors."

But few are aware that physicians feel restricted. "If doctors don't have a free hand, I don't know who has! " remarked one focus group participant.

We also found, though, that accurate information about contractual relations does not make people more supportive of collective action. They may be more sympathetic to physicians, but they don't necessarily see collective action as an appropriate solution.

**TABLE 1**
Mean ratings of collective action options by physicians. (1 = Never Support; 7 = Strongly Support)

| | Federal Legal Change | State Legal Change | More Joint Ventures | MMA Legal Help |
|---|---|---|---|---|
| All Physicians (n = 283) | 4.81 | 4.31 | 4.25 | 5.43 |
| **Location of Practice** | | | | |
| Seven-county Twin Cities Area (n = 178) | 5.05 | 4.52 | 4.17 | 5.44 |
| Olmsted and St. Louis Counties (n = 43) | 4.24 | 3.74 | 3.97 | 5.03 |
| Balance of Minnesota (n = 56) | 4.40 | 4.02 | 4.62 | 5.65 |
| **Specialty** | | | | |
| General practice (n = 10) | 4.10 | 4.30 | 4.60 | 4.00 |
| Family practice (n = 48) | 3.98 | 4.40 | 4.52 | 4.98 |
| Ob-Gyn (n = 12) | 3.92 | 3.92 | 4.50 | 3.45 |
| Internal medicine (n = 49) | 3.85 | 3.96 | 4.29 | 4.64 |
| Pediatrics (n = 21) | 4.04 | 4.52 | 5.04 | 5.10 |
| Psychiatry (n = 15) | 4.50 | 4.67 | 5.20 | 4.36 |
| Radiology (n = 10) | 3.20 | 3.80 | 4.10 | 6.00 |
| Pathology (n = 11) | 4.64 | 4.90 | 5.45 | 4.40 |
| Other medical specialties (n = 23) | 3.48 | 3.56 | 4.26 | 4.35 |
| General surgery (n = 17) | 3.47 | 3.88 | 3.94 | 5.53 |
| Other surgery (n = 33) | 3.90 | 3.90 | 4.13 | 5.19 |
| Other specialties (n = 26) | 3.76 | 3.77 | 3.77 | 4.83 |

**TABLE 2**
Mean ratings of collective action options by the public, (1 = Strongly Oppose; 7 = Strongly Support)

| | Federal Legal Change | State Legal Change | Joint Ventures |
|---|---|---|---|
| Total sample (n = 610) | 4.41 | 4.23 | 4.53 |
| **Residence** | | | |
| Twin Cities Area (n = 303) | 4.44 | 4.18 | 4.63 |
| Olmsted and St. Louis Counties (n = 45) | 3.64 | 4.07 | 4.67 |
| Balance of Minnesota (n = 262) | 4.52 | 4.32 | 4.40 |
| **Age of Respondent** | | | |
| Under 35 (n = 215) | 4.67 | 4.48 | 4.70 |
| 35-64 (n = 286) | 4.30 | 4.09 | 4.51 |
| 65 or older (n = 107) | 4.21 | 4.16 | 4.27 |
| **1987 Household Income** | | | |
| Under $20,000 (n = 226) | 4.48 | 4.33 | 4.59 |
| $20,000-$39,999 (n = 253) | 4.57 | 4.43 | 4.57 |
| $40,000 or more (n = 96) | 4.02 | 3.68 | 4.44 |
| **Health Plan** | | | |
| Any HMO or prepaid (n = 210) | 4.41 | 4.34 | 4.61 |
| Private/indemnity only (n = 255) | 4.38 | 4.07 | 4.41 |
| Medicare/Medicaid only (n = 21) | 4.43 | 4.38 | 4.38 |

## Public Attitudes on Cost-control Measures

Many Minnesota physicians are concerned that the stipulations of prepaid plan contracts prevent them from offering the care their patients need. The public, though, seldom perceives the problem. Does this mean they like the cost-control measures that are in place? The survey results say, "not necessarily." People were asked about each of four measures commonly taken by HMOs to control costs. The use of generic drugs was deemed justifiable by 74% of the sample. But majorities disagreed with most other practices.

A majority—56%—felt that advance authorization of certain diagnostic tests is justifiable. Fewer were supportive of the practice of limiting patients to specified hospitals; 66% found this practice not justifiable. Sentiments were strongest of all against limits on the specialists to whom a patient can be referred, with 71% saying that this was not justified. Only 21% felt that this practice is justifiable, with the others undecided.

Table 3 shows more detailed findings with respect to cost controls. People already enrolled in prepaid plans are the most tolerant of these practices. The differences are especially large regarding limits on the choice of hospital. Over 40% of those enrolled in a prepaid plan feel that such limits are justifiable. Only 18% of those on conventional indemnity plans agree.

People living in the Twin Cities

**TABLE 3**
Percent of public indicating method is justified

| | Cost Controls | | | |
|---|---|---|---|---|
| | Drugs | Tests | Refer | Hosp.* |
| Total Sample (n=610) | 74% | 37% | 21% | 29% |
| **Residence** | | | | |
| Twin Cities Area (n=303) | 78 | 41 | 24 | 42 |
| Olmsted and St. Louis Counties (n=45) | 71 | 40 | 11 | 7 |
| Balance of Minnesota (n=262) | 70 | 31 | 19 | 17 |
| **Age of Respondent** | | | | |
| Under 35 (n=215) | 80 | 40 | 24 | 33 |
| 35-64 (n=286) | 76 | 38 | 20 | 26 |
| 65 or older (n=107) | 55 | 25 | 18 | 27 |
| **1987 Household Income** | | | | |
| Under $20,000 (n=226) | 71 | 30 | 22 | 23 |
| $20,000-$39,999 (n=253) | 75 | 43 | 21 | 32 |
| $40,000 or more (n=96) | 76 | 38 | 19 | 35 |
| **Health Plan** | | | | |
| Any HMO or prepaid (n=210) | 78 | 39 | 24 | 41 |
| Private/indemnity only (n=255) | 73 | 36 | 15 | 18 |
| Medicare/Medicaid only (n=21) | 52 | 29 | 33 | 29 |

---

* Drugs: Generic drug substitution
Tests: Pre-authorization of certain tests
Refer: Limits on specialists to whom patients can be referred
Hosp: Limits on hospitals to which patients can be admitted

area—where HMOs have most of their members—are more likely to feel that these cost-control measures are justified. Just over 40% approve of both pre-authorization limits on tests and of limits on hospital choice.

Opposition to all of these measures is stronger among people 65 or older. This is not surprising. As a rule, they are more conscious of health issues than younger people. And they are more sensitive to restrictions. For instance:

► 80% of those under 35 feel generic drugs are acceptable, as compared with only 55% of the over-65 group.

► 40% of those under 35 believe that pre-authorization of some tests is justifiable, as compared with 25% of those over 65.

These findings suggest that public support for physicians' concerns could be increased, if only the public knew more of the facts. On the other hand, recently reported losses by most of the state's HMOs could have a contrary effect. Most have increased or soon will increase their prices significantly. This rarely wins sympathy. However, it could serve to make their policies on cost control more palatable. The substitution of generic drugs is now accepted by many people. It is possible that members of prepaid plans will become accustomed to other such controls.

## Summary

The escalation of health care costs is unlikely to abate. If therapeutic or surgical procedures are available and can prolong life, people will want them and will expect someone to pay for them. Hippocratic inhibitions will prevent most (if not all) physicians from discouraging helpful procedures because of their cost.

At the same time, those who pay the costs of health care have every reason to apply the brakes. This includes Congress, state legislatures, and employers. Prepaid plans prospered on the promise of price parsimony.

This leaves physicians caught between the principles of healing and the impersonal forces of the market. To an extent not previously experienced, the latter are impinging on the former. One immediate consequence is that physicians are not always able to deliver all the care they feel is appropriate.

The desire to take collective action to counter the demands of prepaid plans is a logical outcome. The research recently completed for the MMA demonstrates that the problem is a real one to most physicians. They feel they need to do *something*. But at this point in time, full-fledged collective action is not what they prefer. Nor would the public be comfortable with such a change.

This is not to say that collective action by otherwise independent physicians will never come to pass. We are witnessing a struggle whose outcome is anything but clear. As with government services, as with health care services: Most people want better highways, better schools, cleaner streets, more police, and all the health care they and their loved ones need.

The question, as with government services, is how much are we willing to pay? We are a creative, innovative people; Minnesotans take pride in being ahead of the rest of the country (witness our Clean Air Act). Can we continue to offer some of the best health care in the country without going broke and without alienating those physicians who made it possible?

The solution surely requires that physicians be able to deal with these new patient brokers, the prepaid plans, on an equal footing.

*Paul Riedesel is vice president and director of public opinion research for LEON TYLER Marketing Research of Minneapolis.*

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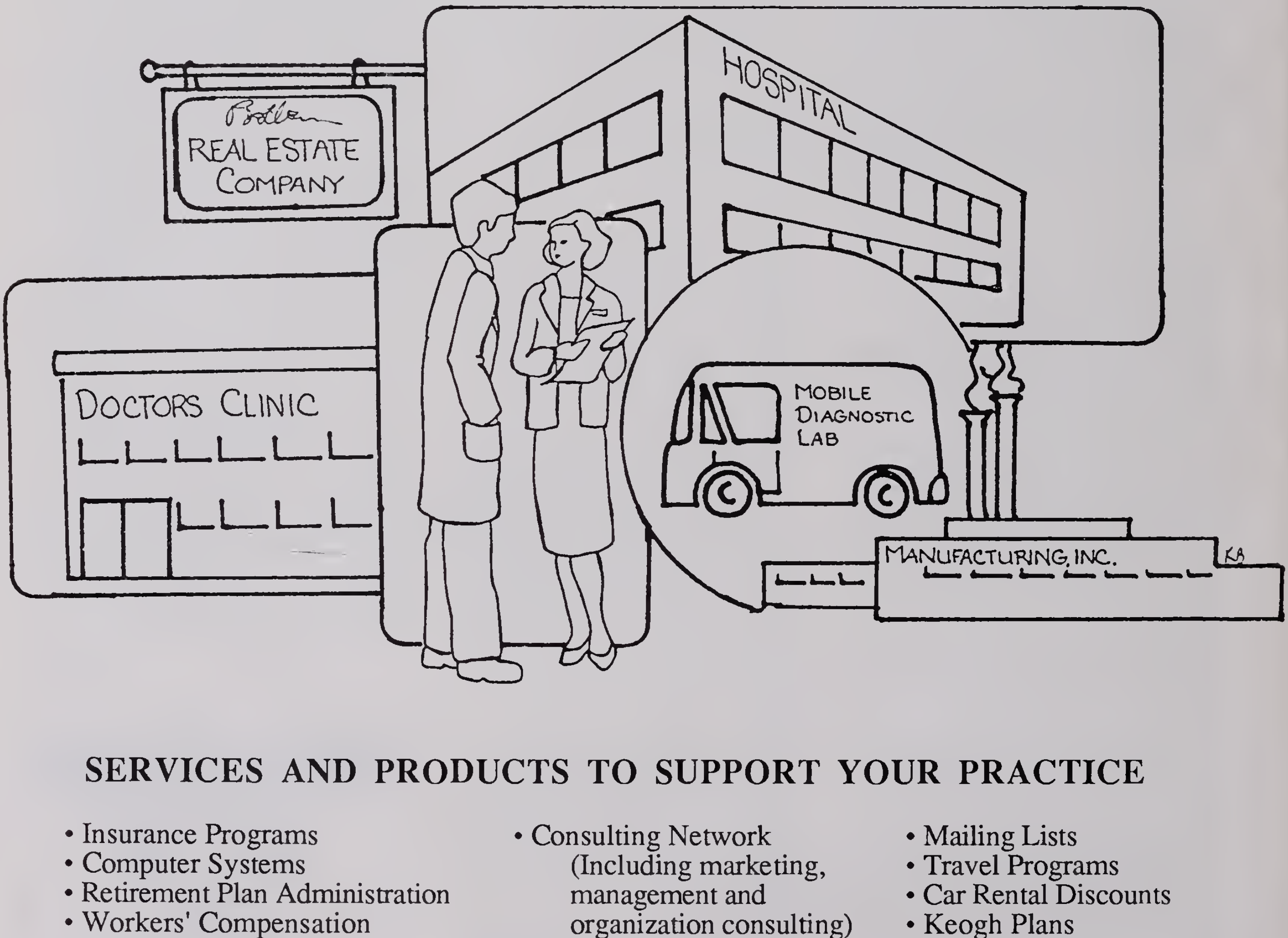

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## PRESIDENT'S LETTER

# An Affirmation of Opportunity

*"The basic irony of human experience is to discover that one has been mourning losses that were never sustained and yearning for a past that never existed, while ignoring one's own real capacity for shaping the present."*

Anonymous

The first semester of my freshman year at St. John's University was over. I was tentatively registered in a curriculum that might lead to pharmacy or law. Adelard Thuente, O.S.B., was my botany professor and had been assigned to be my college advisor. He was my mentor throughout my college career, and he became one of my true friends. During our first session for academic review, Adelard said, "Poston, change your major to pre-med. You'll love medicine." He was right.

I am grateful that my involvement with organized medicine, as a part of my practice, has provided me with this page. I mean to use it to share some of my thoughts and observations about our profession in this and coming months.

Although the topics I plan to address are not new to any of us, I believe that sharpening our focus on old issues from time to time can be a valuable effort. Utilization of economic resources, the doctor-patient relationship, the art of medicine, continuity in primary care, health care rationing, our relationship with the Board of Medical Examiners, and a variety of ethical concerns are some of the subjects that deserve our consideration.

A recent survey of a representative sampling of our members by the Ad Hoc Committee on Competition indicated that well over half of us (76 percent) "enjoy medicine less than we did five years ago." That is a distressing statistic.

Ideally, one's life work should be enjoyable and fulfilling. The survey suggests that for many of us that is no longer the case. Some of the reasons for our dissatisfaction are easily found, however. They are the result of change in both the art and the science of medicine.

I have been a doctor for 24 years. During that time, our profession has been changed by Medicare, Medicaid, peer review, group practice, professional liability, cost of education, competition, HMOs, DRGs, and a host of other acronyms. That same era has also given us more knowledge, high-technology diagnosis and treatment, pharmaceutical wonder drugs, wider patient access to care, lower infant mortality, longer life expectancy, and for most, a better state of health.

Some of those developments have brought with them problems, frustrations, ethical questions, and economic dilemmas.

Our practice is no longer a simple doctor-patient relationship. Our medical activities are increasingly influenced by socioeconomic factors, governmental regulation, and other external forces. We must continue to observe, deliberate, and influence the changes going on around us.

**Our medical activities are increasingly influenced by socioeconomic factors, governmental regulation, and other external forces.**

On balance, I believe, the positive still outweighs the negative, but medicine will need our continuing effort and participation to keep it that way.

In this changing environment, I believe it is time to dust off our idealism. We should reaffirm the positive aspects of our profession. One of my favorite aphorisms is this: "A physician is one who knows the body, enlightens the mind, and befriends the soul of his patient."

We are privileged to have the confidence of our patients when they seek our help, but we must continue to earn that confidence by caring, comforting, and sometimes curing. As doctors we have an unequaled opportunity to serve our neighbor. Let us be thankful for this opportunity and use it to regain the enjoyment in our work that we seem to be losing.

Adelard was right!

# NEWS CLIPS

### NATIONAL BME APPOINTMENT

William E. Jacott, M.D., assistant vice president for health sciences at the University of Minnesota, has been elected a member-at-large of the National Board of Medical Examiners. The board is a nonprofit organization that prepares and administers medical licensure examinations. Jacott will serve on the board until March 1992.

### ADVANCED ADMISSION TO U MEDICAL SCHOOL

The University of Minnesota's Medical School announced a policy of accepting 20 to 25 college sophomores each year who have grade-point averages of 3.75 or higher. Those accepted for advanced admission would be able to enroll in medical school without taking the MCAT or following other standard admission procedures, provided they maintain a "B" average throughout their junior and senior years. The policy takes effect this June.

### U HOSPITAL PRICE HIKE

Effective July 1, prices at University Hospital will increase 9.8 percent, the hospital's Board of Governors decided this spring. The price jump will be more than three times as high as increases during the past three years, when they were held at 2.9 percent. Increases at other Twin Cities hospitals this year range from 5 to 15 percent, according to the Minnesota Hospital Association.

### ALZHEIMER'S COSTS

Health economists from the National Institute on Aging estimate that $88 billion was spent in 1985 on Alzheimer's and related dementias. The economists studied patients 65 years old or older who suffer from Alzheimer's, multi-faceted dementia, or both, which include 85 percent of all dementia patients.

### GOVERNMENT'S SHARE

Government sources paid for 53 percent of all expenditures for hospital care, 48 percent of nursing home care, and 29 percent of all physician services in 1986, said a new report by the Department of Health and Human Services.

For Medicare, hospital care accounted for 68 percent of the program's expenditures, while physician services accounted for 25 percent. Hospital and nursing home care accounted for 36 percent of Medicaid expenditures, while physician services accounted for 9 percent.

Hospital care expenditures continue to capture the largest share of health care dollars, the report said. In 1986, hospital payments accounted for $179.6 billion, or 39 percent of all health care expenditures, up 8.4 percent from the previous year.

National health care expenditures totaled $458 billion in 1986 and comprised 10.9 percent of the gross national product. That was up from 10.6 percent the previous year.

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*Source:* Modern Healthcare, *April 15, 1988*

### DIFFERING VIEWS ON HEALTH CARE

The general public often views health care differently than physicians and other health care officials, a recent Louis Harris and Associates survey indicated. While 75 percent of doctors rated patients' health care good to excellent, for example, 68 percent of the patients said they received poor to fair health care for the money spent on insurance. The poll also found strong disagreement over the issue of who should have the ultimate say in the fate of the terminally ill, and on whether insurers should be allowed to set financial limits on medical treatment that would save lives. Health care professionals and the general public, however, both supported living wills.

### TREATING AIDS PATIENTS

Although 69 percent of primary care physicians said they would treat AIDS or ARC (AIDS-related complex) patients, 13 percent said they would not, and 18 percent were undecided, a study by *Physician's Management* magazine revealed. The survey is based on the responses of 456 U.S. physicians, and also indicated that younger doctors tend to be more willing to treat AIDS and ARC than older doctors.

### TRIAL HMO PAYMENT SYSTEM

MedCenters Health Plan of Minneapolis is one of three health maintenance organizations asked by the Health Care Financing Administration to test a payment system for Medicare capitated health plans. The system would use diagnostic cost groups, under which HMOs would be paid a rate adjusted to reflect the severity of a patient's previous hospitalization. Currently, Medicare HMOs are paid a rate that reflects a community's average health care costs. The other participating HMOs are Health Care Plan of Buffalo, New York, and PacifiCare of Cypress, California.

### PPO MERGER

Select Care and Minnesota Health Network, two Minneapolis-based preferred provider organizations, have agreed to merge.

The merged group, which will be known as Select Care, will have about 55,000 enrollees and a network of 16 hospitals and more than 1,000 primary- and specialty-care physicians.

Richard Frey, M.D., the founder of Minnesota Health Network, will become medical director of the new organization.

*Source:* Modern Healthcare, *April 22, 1988*

### OBs QUITTING BABY DELIVERY

More obstetricians are dropping out of the baby delivering business because of rising malpractice insurance premiums and the threat of lawsuits, according to the American College of Obstetricians and Gynecologists (ACOG). One out of every eight ob/gyns surveyed stopped delivering babies because of the threat of malpractice suits, and doctors are leaving the baby delivering business at earlier ages, ACOG reported.

### MORE CHILDREN WITH AIDS

The real number of children with AIDS is far larger than the official estimate, asserts the National Association of Children's Hospitals and Related Institutions (NACHRI).

A survey of 19 NACHRI-member hospitals in September 1987 found 648 cases, whereas the official Centers for Disease Control estimate was 584 for the whole nation.

NACHRI said the new CDC definition of AIDS is likely to reflect the greater numbers of pediatric AIDS cases, but that the current underestimate "could have a dramatic impact on legislative planning to meet children's medical needs . . ."

*Source:* The Nation's Health, *April 1988*

### AMA INCOME DROP

The net income of the American Medical Association dropped 21 percent last year, according to the association's recently released annual report.

The AMA reported a $5.3 million profit from continuing operations last year, compared with $6.7 million in 1986. Total net income in 1986 was nearly $18 million because of the sale of several real estate holdings.

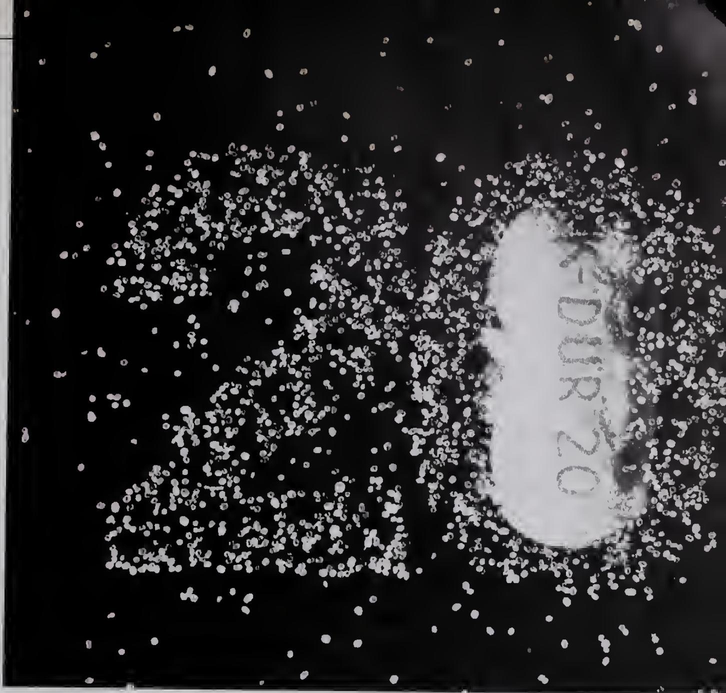
In both 1986 and 1987, the AMA paid about $700,000 in taxes on unrelated business income. The AMA is a tax-exempt organization under Section 501(c)(6) of the Internal Revenue Code.

Dues paid by the AMA's nearly 260,000 members represented 41 percent of the association's revenues in 1987, while advertising in various AMA publications represented 23 percent.

*Source:* Modern Healthcare, *April 15, 1988*

### IN CONSULTATION

Organetics, Inc. announced the appointment of C. Walton Lillehei, M.D., Ph.D., to its Technical Advisory Board. Lillehei, a world-renown cardiac surgeon, professor, and inventor, from St. Paul, Minnesota, will advise Organetics, Inc. on the development of its heart preservation and transport system.



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3. The use of potassium salts in patients receiving diuretics for uncomplicated essential hypertension is often unnecessary when such patients have a normal dietary pattern. Serum potassium should be checked periodically, however, and if hypokalemia occurs, dietary supplementation with potassium-containing foods may be adequate to control milder cases. In more severe cases supplementation with potassium salts may be indicated.

**CONTRAINDICATIONS:** Potassium supplements are contraindicated in patients with hyperkalemia since a further increase in serum potassium concentration in such patients can produce cardiac arrest. Hyperkalemia may complicate any of the following conditions: Chronic renal failure, systemic acidosis such as diabetic acidosis, acute dehydration, extensive tissue breakdown as in severe burns, adrenal insufficiency, or the administration of a potassium-sparing diuretic (e.g., spironolactone, triamterene).

Wax-matrix potassium chloride preparations have produced esophageal ulceration in certain cardiac patients with esophageal compression due to enlarged left atrium.

All solid dosage forms of potassium chloride supplements are contraindicated in any patient in whom there is cause for arrest or delay in tablet passage through the gastrointestinal tract. In these instances, potassium supplementation should be with a liquid preparation.

**WARNINGS: Hyperkalemia**—In patients with impaired mechanisms for excreting potassium, the administration of potassium salts can produce hyperkalemia and cardiac arrest. This occurs most commonly in patients given potassium by the intravenous route but may also occur in patients given potassium orally. Potentially fatal hyperkalemia can develop rapidly and be asymptomatic. The use of potassium salts in patients with chronic renal disease, or any other condition which impairs potassium excretion, requires particularly careful monitoring of the serum potassium concentration and appropriate dosage adjustment.

**Interaction with Potassium Sparing Diuretics**—Hypokalemia should not be treated by the concomitant administration of potassium salts and a potassium-sparing diuretic (e.g., spironolactone or triamterene) since the simultaneous administration of these agents can produce severe hyperkalemia

**Gastrointestinal Lesions**—Potassium chloride tablets have produced stenotic and/or ulcerative lesions of the small bowel and deaths. These lesions are caused by a high localized concentration of potassium ion in the region of a rapidly dissolving tablet, which injures the bowel wall and thereby produces obstruction, hemorrhage or perforation.

K-DUR tablets contain micro-crystalloids which disperse upon disintegration of the tablet. These micro-crystalloids are formulated to provide a controlled release of potassium chloride. The dispersibility of the micro-crystalloids and the controlled release of ions from them are intended to minimize the possibility of a high local concentration near the gastrointestinal mucosa and the ability of the KCl to cause stenosis or ulceration. Other means of accomplishing this (e.g., incorporation of potassium chloride into a wax matrix) have reduced the frequency of such lesions to less than one per 100,000 patient years (compared to 40–50 per 100,000 patient years with enteric-coated potassium chloride) but have not eliminated them. The frequency of GI lesions with K-DUR tablets is, at present, unknown. K-DUR tablets should be discontinued immediately and the possibility of bowel obstruction or perforation considered if severe vomiting, abdominal pain, distention, or gastrointestinal bleeding occurs.

**Metabolic Acidosis**—Hypokalemia in patients with metabolic acidosis should be treated with an alkalinizing potassium salt such as potassium bicarbonate, potassium citrate, potassium acetate, or potassium gluconate

**PRECAUTIONS:** The diagnosis of potassium depletion is ordinarily made by demonstrating hypokalemia in a patient with a clinical history suggesting some cause for potassium depletion. In interpreting the serum potassium level, the physician should bear in mind that acute alkalosis per se can produce hypokalemia in the absence of a deficit in total body potassium while acute acidosis per se can increase the serum potassium concentration into the normal range even in the presence of a reduced total body potassium. The treatment of potassium depletion, particularly in the presence of cardiac disease, renal disease, or acidosis requires careful attention to acid-base balance and appropriate monitoring of serum electrolytes, the electrocardiogram, and the clinical status of the patient.

**Laboratory Tests:** Regular serum potassium determinations are recommended. In addition, during the treatment of potassium depletion, careful attention should be paid to acid-base balance, other serum electrolyte levels, the electrocardiogram, and the clinical status of the patient, particularly in the presence of cardiac disease, renal disease, or acidosis

**Drug Interactions:** Potassium-sparing diuretics; see **WARNINGS.**

**Carcinogenesis, Mutagenesis, Impairment of Fertility:** Long-term carcinogenicity studies in animals have not been performed.

**Pregnancy Category C:** Animal reproduction studies have not been conducted with K-DUR. It is also not known whether K-DUR can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. K-DUR should be given to a pregnant woman only if clearly needed.

**Nursing Mothers:** The normal potassium ion content of human milk is about 13 mEq per liter. Since oral potassium becomes part of the body potassium pool, so long as body potassium is not excessive, the contribution of potassium chloride supplementation should have little or no effect on the level in human milk.

**Pediatric Use:** Safety and effectiveness in children have not been established.

**ADVERSE REACTIONS:** One of the most severe adverse effects is hyperkalemia (see **CONTRAINDICATIONS, WARNINGS,** and **OVERDOSAGE).** There have also been reports of upper and lower gastrointestinal conditions including obstruction, bleeding, ulceration, and perforation (see **CONTRAINDICATIONS** and **WARNINGS);** other factors known to be associated with such conditions were present in many of these patients.

The most common adverse reactions to oral potassium salts are nausea, vomiting, abdominal discomfort, and diarrhea These symptoms are due to irritation of the gastrointestinal tract and are best managed by taking the dose with meals or reducing the dose.

Skin rash has been reported rarely

**OVERDOSAGE:** The administration of oral potassium salts to persons with normal excretory mechanisms for potassium rarely causes serious hyperkalemia. However, if excretory mechanisms are impaired or if potassium is administered too rapidly intravenously, potentially fatal hyperkalemia can result (see **CONTRAINDICATIONS** and **WARNINGS**). It is important to recognize that hyperkalemia is usually asymptomatic and may be manifested only by an increased serum potassium concentration and characteristic electrocardiographic changes (peaking of T-waves, loss of P-waves, depression of S-T segment, and prolongation of the QT-interval). Late manifestations include muscle-paralysis and cardiovascular collapse from cardiac arrest.

Treatment measures for hyperkalemia include the following:

1. Elimination of foods and medications containing potassium and of potassium-sparing diuretics.
2. Intravenous administration of 300 to 500 ml/hr of 10% dextrose solution containing 10–20 units of insulin per 1,000 ml.
3. Correction of acidosis, if present, with intravenous sodium bicarbonate.
4. Use of exchange resins, hemodialysis, or peritoneal dialysis.

In treating hyperkalemia, it should be recalled that in patients who have been stabilized on digitalis, too rapid a lowering of the serum potassium concentration can produce digitalis toxicity

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**In vitro* activity does not necessarily imply a correlation with *in vivo* results.

†Due to susceptible strains of indicated pathogens. See indicated organisms in Brief Summary.

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A history of hypersensitivity to ciprofloxacin is a contraindication to its use. A history of hypersensitivity to other quinolones may also contraindicate the use of ciprofloxacin.

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# (ciprofloxacin HCl/Miles)

## ■ 500 mg *B.I.D.* for most infections; 750 mg *B.I.D.* for severe or complicated infections.

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### INDICATIONS AND USAGE

Cipro® is indicated for the treatment of infections caused by susceptible strains of the designated microorganisms in the conditions listed below

**Lower Respiratory Infections** caused by *Escherichia coli, Klebsiella pneumoniae, Enterobacter cloacae, Proteus mirabilis, Pseudomonas aeruginosa, Haemophilus influenzae, Haemophilus parainfluenzae*, and *Streptococcus pneumoniae*

**Skin and Skin Structure Infections** caused by *Escherichia coli, Klebsiella pneumoniae, Enterobacter cloacae, Proteus mirabilis, Proteus vulgaris, Providencia stuartii, Morganella morganii, Citrobacter freundii, Pseudomonas aeruginosa, Staphylococcus aureus* (penicillinase and nonpenicillinase-producing strains), *Staphylococcus epidermidis*, and *Streptococcus pyogenes*.

**Bone and Joint Infections** caused by *Enterobacter cloacae, Serratia marcescens*, and *Pseudomonas aeruginosa*

**Urinary Tract Infections** caused by *Escherichia coli, Klebsiella pneumoniae, Enterobacter cloacae, Serratia marcescens, Proteus mirabilis, Providencia rettgeri, Morganella morganii, Citrobacter diversus, Citrobacter freundii, Pseudomonas aeruginosa, Staphylococcus epidermidis*, and *Streptococcus faecalis*.

**Infectious Diarrhea** caused by *Escherichia coli* (enterotoxigenic strains), *Campylobacter jejuni, Shigella flexneri*,* and *Shigella sonnei** when antibacterial therapy is indicated.

*Efficacy for this organism in this organ system was studied in fewer than 10 infections

Appropriate culture and susceptibility tests should be performed before treatment in order to isolate and identify organisms causing infection and to determine their susceptibility to ciprofloxacin Therapy with Cipro® may be initiated before results of these tests are known, once results become available appropriate therapy should be continued As with other drugs, some strains of *Pseudomonas aeruginosa* may develop resistance fairly rapidly during treatment with ciprofloxacin. Culture and susceptibility testing performed periodically during therapy will provide information not only on the therapeutic effect of the antimicrobial agent but also on the possible emergence of bacterial resistance

### CONTRAINDICATIONS

A history of hypersensitivity to ciprofloxacin is a contraindication to its use A history of hypersensitivity to other quinolones may also contraindicate the use of ciprofloxacin

### WARNINGS

CIPROFLOXACIN SHOULD NOT BE USED IN CHILDREN OR PREGNANT WOMEN The oral administration of ciprofloxacin caused lameness in immature dogs Histopathological examination of the weight-bearing joints of these dogs revealed permanent lesions of the cartilage Related drugs such as nalidixic acid, cinoxacin, and norfloxacin also produced erosions of cartilage of weight-bearing joints and other signs of arthropathy in immature animals of various species (SEE ANIMAL PHARMACOLOGY SECTION IN FULL PRESCRIBING INFORMATION)

### PRECAUTIONS

*General.*

As with other quinolones, ciprofloxacin may cause central nervous system (CNS) stimulation, which may lead to tremor, restlessness, lightheadedness, confusion, and very rarely to hallucinations or convulsive seizures Therefore, ciprofloxacin should be used with caution in patients with known or suspected CNS disorders, such as severe cerebral arteriosclerosis or epilepsy, or other factors which predispose to seizures (SEE ADVERSE REACTIONS).

Crystals of ciprofloxacin have been observed rarely in the urine of human subjects but more frequently in the urine of laboratory animals. Crystalluria related to ciprofloxacin has been reported only rarely in man, because human urine is usually acidic Patients receiving ciprofloxacin should be well hydrated, and alkalinity of the urine should be avoided. The recommended daily dose should not be exceeded Alteration of the dosage regimen is necessary for patients with impairment of renal function (SEE DOSAGE AND ADMINISTRATION SECTION IN FULL PRESCRIBING INFORMATION).

*Drug Interactions.*

Concurrent administration of ciprofloxacin with theophylline may lead to elevated plasma concentrations of theophylline and prolongation of its elimination half-life This may result in increased risk of theophylline-related adverse reactions. If concomitant use cannot be avoided, plasma levels of theophylline should be monitored and dosage adjustments made as appropriate.

Antacids containing magnesium hydroxide or aluminum hydroxide may interfere with the absorption of ciprofloxacin, resulting in serum and urine levels lower than desired, concurrent administration of these agents with ciprofloxacin should be avoided

Probenecid interferes with the renal tubular secretion of ciprofloxacin and produces an increase in the level of ciprofloxacin in the serum This should be considered if patients are receiving both drugs concomitantly

As with other broad-spectrum antibiotics, prolonged use of ciprofloxacin may result in overgrowth of nonsusceptible organisms Repeated evaluation of the patient's condition and microbial susceptibility testing is essential If superinfection occurs during therapy, appropriate measures should be taken

*Information for Patients:*

Patients should be advised that ciprofloxacin may be taken with or without meals The preferred time of dosing is two hours after a meal. Patients should also be advised to drink fluids liberally and not take antacids containing magnesium or aluminum concomitantly or within two hours after dosing Ciprofloxacin may cause dizziness or lightheadedness, therefore patients should know how they react to this drug before they operate an automobile or machinery or engage in activities requiring mental alertness or coordination

*Carcinogenesis, Mutagenesis, Impairment of Fertility*

Eight *in vitro* mutagenicity tests have been conducted with ciprofloxacin and the test results are listed below

Salmonella/Microsome Test (Negative)
*E coli* DNA Repair Assay (Negative)
Mouse Lymphoma Cell Forward Mutation Assay (Positive)
Chinese Hamster $V_{79}$ Cell HGPRT Test (Negative)
Syrian Hamster Embryo Cell Transformation Assay (Negative)
*Saccharomyces cerevisiae* Point Mutation Assay (Negative)
*Saccharomyces cerevisiae* Mitotic Crossover and Gene Conversion Assay (Negative)
Rat Hepatocyte DNA Repair Assay (Positive)

Thus, two of the eight tests were positive, but the following three *in vivo* test systems gave negative results

Rat Hepatocyte DNA Repair Assay
Micronucleus Test (Mice)
Dominant Lethal Test (Mice)

Long-term carcinogenicity studies in animals have not yet been completed

*Pregnancy – Pregnancy Category C*

Reproduction studies have been performed in rats and mice at doses up to six times the usual daily human dose and have revealed no evidence of impaired fertility or harm to the fetus due to ciprofloxacin In rabbits, as with most antimicrobial agents, ciprofloxacin (30 and 100 mg/kg orally) produced gastrointestinal disturbances resulting in maternal weight loss and an increased incidence of abortion. No teratogenicity was observed at either dose. After intravenous administration, at doses up to 20 mg/kg, no maternal toxicity was produced, and no embryotoxicity or teratogenicity was observed There are, however, no adequate and well-controlled studies in pregnant women SINCE CIPROFLOXACIN, LIKE OTHER DRUGS IN ITS CLASS, CAUSES ARTHROPATHY IN IMMATURE ANIMALS, IT SHOULD NOT BE USED IN PREGNANT WOMEN (SEE WARNINGS)

*Nursing Mothers*

It is not known whether ciprofloxacin is excreted in human milk, however, it is known that ciprofloxacin is excreted in the milk of lactating rats and that other drugs of this class are excreted in human milk. Because of this, and because of the potential for serious adverse reactions from ciprofloxacin in nursing infants, a decision should be made to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother.

*Pediatric Use*

Ciprofloxacin should not be used in children because it causes arthropathy in immature animals (SEE WARNINGS).

### ADVERSE REACTIONS

Ciprofloxacin is generally well tolerated During clinical investigation, 2,799 patients received 2,868 courses of the drug Adverse events that were considered likely to be drug related occurred in 7 3% of courses, possibly related in 9.2%, and remotely related in 3.0% Ciprofloxacin was discontinued because of an adverse event in 3.5% of courses, primarily involving the gastrointestinal system (1.5%), skin (0.6%), and central nervous system (0.4%)

The most frequently reported events, drug related or not, were nausea (5 2%), diarrhea (2 3%), vomiting (2.0%), abdominal pain/discomfort (1.7%), headache (1 2%), restlessness (1.1%), and rash (1 1%).

Additional events that occurred in less than 1% of ciprofloxacin courses are listed below Those typical of quinolones are italicized.

GASTROINTESTINAL: *(See above)*, painful oral mucosa, oral candidiasis, dysphagia, intestinal perforation, gastrointestinal bleeding

CENTRAL NERVOUS SYSTEM. *(See above), dizziness, lightheadedness, insomnia, nightmares, hallucinations,* manic *reaction, irritability, tremor,* ataxia, *convulsive seizures, lethargy, drowsiness, weakness,* malaise, *anorexia, phobia, depersonalization, depression, paresthesia*

SKIN/HYPERSENSITIVITY *(See above), pruritus, urticaria, photosensitivity, flushing, fever, chills,* angioedema, *edema of the face, neck, lips, conjunctivae or hands,* cutaneous candidiasis, hyperpigmentation, erythema nodosum.

SPECIAL SENSES. *blurred vision, disturbed vision, (change in color perception, overbrightness of lights), decreased visual acuity, diplopia,* eye *pain, tinnitus, bad taste.*

MUSCULOSKELETAL: *joint or back pain, joint stiffness,* achiness, neck or chest pain, flare-up of gout

RENAL/UROGENITAL *interstitial nephritis, renal failure,* polyuria, urinary retention, urethral bleeding, vaginitis, acidosis

CARDIOVASCULAR: palpitations, atrial flutter, ventricular ectopy, syncope, hypertension, angina pectoris, myocardial infarction, cardiopulmonary arrest, cerebral thrombosis

RESPIRATORY epistaxis, laryngeal or pulmonary edema, hiccough, hemoptysis, dyspnea, bronchospasm, pulmonary embolism.

Most of these events were described as only mild or moderate in severity, abated soon after the drug was discontinued, and required no treatment.

In several instances, nausea, vomiting, tremor, restlessness, agitation, or palpitations were judged by investigators to be related to elevated plasma levels of theophylline possibly as a result of a drug interaction with ciprofloxacin.

*Adverse Laboratory Changes* Changes in laboratory parameters listed as adverse events without regard to drug relationship.

Hepatic – Elevations of: ALT (SGPT) (1.9%), AST (SGOT) (1.7%), alkaline phosphatase (0.8%), LDH (0 4%), serum bilirubin (0.3%)

Hematologic – eosinophilia (0.6%), leukopenia (0 4%), decreased blood platelets (0 1%), elevated blood platelets (0.1%), pancytopenia (0.1%).

Renal – Elevations of Serum creatinine (1 1%), BUN (0.9%)

CRYSTALLURIA, CYLINDRURIA, AND HEMATURIA HAVE BEEN REPORTED.

Other changes occurring in less than 0.1% of courses were Elevation of serum gammaglutamyl transferase, elevation of serum amylase, reduction in blood glucose, elevated uric acid, decrease in hemoglobin, anemia, bleeding diathesis, increase in blood monocytes, and leukocytosis.

### OVERDOSAGE

Information on overdosage in humans is not available. In the event of acute overdosage, the stomach should be emptied by inducing vomiting or by gastric lavage. The patient should be carefully observed and given supportive treatment. Adequate hydration must be maintained. In the event of serious toxic reactrons from overdosage, hemodialysis or peritoneal dialysis may aid in the removal of ciprofloxacin from the body, particularly if renal function is compromised.

### DOSAGE AND ADMINISTRATION

The usual adult dosage for patients with urinary tract infections is 250 mg every 12 hours For patients with complicated infections caused by organisms not highly susceptible, 500 mg may be administered every 12 hours.

Respiratory tract infections, skin and skin structure infections, and bone and joint infections may be treated with 500 mg every 12 hours. For more severe or complicated infections, a dosage of 750 mg may be given every 12 hours

The recommended dosage for infectious diarrhea is 500 mg every 12 hours

In patients with renal impairment, some modification of dosage is recommended (SEE DOSAGE AND ADMINISTRATION SECTION IN FULL PRESCRIBING INFORMATION)

### HOW SUPPLIED

Cipro® (ciprofloxacin HCl/Miles) is available as tablets of 250 mg, 500 mg, and 750 mg in bottles of 50, and in Unit-Dose packages of 100 (SEE FULL PRESCRIBING INFORMATION FOR COMPLETE INFORMATION).

## CONVENIENT *B.I.D.* DOSAGE

### Recommended dosage schedule

| Infection Site* | Severity of Infection | Dosage |
|---|---|---|
| Respiratory Tract*<br>Bone and Joint*<br>Skin/Skin Structure* | Mild/Moderate | 500 mg *B.I.D.* |
| | Severe/Complicated | 750 mg *B.I.D.* |
| Urinary Tract* | Mild/Moderate | 250 mg *B.I.D.* |
| | Severe/Complicated | 500 mg *B.I.D.* |
| Infectious Diarrhea* | Mild/Moderate/Severe | 500 mg *B.I.D.* |

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*** Due to susceptible strains of indicated pathogens. See indicated organisms in Brief Summary.**

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professional concepts of quality care. There's a need for balance.

**REECE:** *Speaking of "balance," how do you balance the respective interests of hospitals and doctors in the competitive environment of the Twin Cities? Hospitals and physicians have both been battered. It would seem logical for hospitals and physicians to band together against the common enemy of managed care. Yet, in my own travels, I have found distrust between physicians and hospitals continues unabated.*

**SCHULTZ:** The tension has been longstanding, and it will continue. Doctors have always felt they are free agents, that they could move from hospital to hospital, that they did not really owe any loyalty or allegiance to a particular hospital.

This is changing because hospitals are beginning to provide services and get into things that are outside the hospital. "Outside" used to be the domain of physicians only. Now physicians are realizing they need to get together with the hospitals or at least have some input into what hospitals are doing.

Hospitals realize, I think, that physicians are essential to their viability. Doctors' distrust of hospitals is still there, but it's changing, partly out of desperation brought on by economic pressures. Doctors are turning to the hospital as perhaps their only ally. They are recognizing that hospitals and doctors are in the same boat.

**REECE:** *Do you see hospitals and physicians integrating in this community?*

**SCHULTZ:** Yes. We're seeing it in other parts of the country also, but not as much as in the Twin Cities, where the pressure is greatest. The fact that physicians have allowed Twin Cities hospitals to aggregate into four large corporations without resisting indicates their complicity. Many doctors and groups of doctors are getting into joint ventures with hospitals. I predict even greater changes over the next two to five years. The fact that one of the hospital corporations, HealthEast, is able to put together one hospital staff for all of its hospitals is a tremendous change. I see this as a progressive change that will happen in the other corporate systems and hospitals.

**REECE:** *Do you have any secrets of success for hospital-physician joint ventures?*

**SCHULTZ:** The most important ingredient to ensure success is accountability for both. One of the problems hospitals have always had with doctors is that doctors are under no real risk if the hospital fails. Nor do they receive any real benefit if the hospital succeeds.

Joint ventures occurring now involve a dollar investment by the physician and by the hospital. There is a joint risk for those dollars plus financial rewards if the venture is successful. This collaboration, this risk sharing, is essential for joint ventures to succeed. You have to have accountability, and you have to have control over how resources, or dollars, are used. Making physicians responsible in part for what happens to the hospitals will help ensure that hospitals are as efficiently run as possible.

IPAs and HMOs have had a problem because physicians have had no real stake in the health of the organization. As a result, it's very hard for an IPA to control utilization of resources because it can't control what the doctors order. But a closed-staff group model HMO, with salaried physicians, can tightly control resources.

That doesn't mean that one model is better than the other. A closed-staff model may cut corners and may infringe on access or quality. On the other hand, a wide open IPA may offer too many procedures and use too many dollars to succeed in a competitive health care marketplace.

**REECE:** *Still, it's no easy trick to convince individualistically minded physicians that they are stakeholders in the organization and that their individual performances are necessary for the success of that organization.*

**SCHULTZ:** It's a big change. And it's not something doctors view with great love and desire. I've concluded that you have to view physicians by age group.

First, there are the older physicians, starting at 50 or 55, who knew a system of the past where they were much more autonomous free agents. They are depressed, waiting to retire, or they take salaried positions and mark time until they quit.

There's the middle group. They are somewhere from 40 to 50 years old. They have worked part of the old system for a while, are frustrated, tend to be angry, tend to be uncooperative because they have a fair amount of their career ahead of them, and they don't like what's happening.

Then there are the younger physicians, who are the most flexible. They have had no experience in the "golden age." They weren't in practice in the '50s, '60s, and '70s. They're looking for leadership. They're looking for changes that will make them glad they're physicians. They're more open to major changes in their relationships to corporations and managers of health care.

When you're a leader, you have to realize you're dealing with physicians with different attitudes and experiences. You're not going to accomplish as much with one group as you might with another. You have to adapt. To some extent, that's what I'm trying to do at Health One, to best meet the expectations of all ages. Eventually, we'll end up with one group, but that may take 20 years.

**"First, there are the older physicians. They are depressed, waiting to retire, or they take salaried positions and mark time until they quit."**

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**101 Willmar Avenue SW**
**Willmar, Minnesota 56201**

REECE: *Good luck. Now put on your second hat, president-elect of Hennepin County Medical Society. What are you learning from this experience?*

SCHULTZ: I'm hearing firsthand a great deal about the problems facing practicing physicians. I'm also learning much more about the restrictions and limitations organized medicine has to deal with. The Hennepin County Medical Society and the state medical association, even the national groups, often have such diverse membership. Adopting one position may be beneficial to some members and detrimental to others.

Societies are always compromising. They're trying to please the majority of their members, which interferes with taking strong positions. You function more by persuasion and discussion. So it takes a lot of patience and a lot of talking. The pressure and desperation physicians feel is what's forcing change.

REECE: *How economically fragile is the medical system in the Twin Cities?*

SCHULTZ: Hospitals are very fragile. Many hospitals were in the red in 1986 and 1987, and they seem to be doing the same in 1988. Those in the black are barely breaking even and are not able to fund equipment refurbishing or to upgrade their physical plants. New programs are being put in a holding pattern or just forgotten. The whole system is in trouble. No hospital is coming out as a winner.

There's no question that with managed care and with Medicare/Medicaid that physicians as a whole have had a reduction in income. But among the 20-odd specialties in medicine, some procedural specialties continue to do well.

The physicians who are most fragile are those who deliver primary care—family practitioners, general internists, and pediatricians. They not only are taking a reduction in income, they're reaching the point where they fear they can't keep their offices going. Primary care physicians are in deep trouble because they mainly do office practice, which takes a lot of personnel. Their overhead is high—a minimum 35 percent and more likely 50 to 75 percent—and hard to compress. Revenues for delivering care are being cut back. So margins are getting smaller and smaller. Some primary care clinic offices wonder from month to month whether they can meet their payroll. Many are taking themselves out of HMOs because they feel they must treat every HMO patient at a loss. Also, reimbursement for primary care services from Medicare patients is so low that every new Medicare patient is a further loss to the practice. Some physicians are refusing to take care of certain categories of patients.

REECE: *Do you think the public appreciates this level of desperation?*

**SCHULTZ:** I don't think the public really knows what's happening within the profession. The media, whether television or newspapers or magazines, still portray physicians as fat cats. Physicians and organized medicine have to document that some areas of medicine verge on bankruptcy, particularly in the Twin Cities, where managed care now covers over 50 percent of the population.

**REECE:** *Do you think physicians in Minnesota, because of high market penetration of managed care, are worse off than their counterparts in the rest of the nation?*

**SCHULTZ:** There's no doubt Twin Cities physicians have been hurt more than physicians in the rest of the country. The rest of the country knows it, too. One of my functions at Health One is to help hospitals and physicians recruit new physicians. I have about 50 opportunities for family practitioners, general internists, neurologists, obstetricians, and cardiologists. We can't fill them. Furthermore, young physicians finishing training are leaving the state. They know how tough it is in Minnesota and the Twin Cities. The word is out. Young physicians looking for career opportunities put Minnesota at the bottom of their list.

**"Physicians and organized medicine have to document that some areas of medicine verge on bankruptcy."**

**REECE:** *So not only do we have a brain drain, but we have no brain pull either.*

**SCHULTZ:** That's right. The attractiveness of Minnesota was that of a high-quality health care delivery state. That was always true because of the University of Minnesota, the Mayo Clinic, and the high-technology firms in Minnesota. But that has changed. We're now seen by physicians around the country as a disaster area for practicing medicine.

**REECE:** *And yet in all the talk about measuring quality, we never hear about the erosion of the human talent and spirit as a loss of quality. We don't count the number of physicians leaving or not coming here. These losses eventually will devastate quality.*

**SCHULTZ:** I agree. Physicians are frustrated, depressed, and angry. They're not going into the profession. There's no question that that's going to lower quality of care.

**REECE:** *You have national perspective: You are one of 18 regents of the American College of Physicians. How do these regents look at Minnesota?*

**SCHULTZ:** The medical profession in this nation is watching Minnesota. Many of the changes now occurring in other states and cities have been tried out here. Physicians from other states don't want to be a part of that shaking-out process. They're learning from the mistakes we've made in the Twin Cities. The near insolvency of the Minnesota health care system disturbs them, and they want to avoid our tragedies. You find the same malaise of spirit in Massachusetts.

**REECE:** *Minnesota has been called the laboratory of the future, and many people seem to be saying the experiment has failed. They have seen the future, and it doesn't work.*

**SCHULTZ:** That's right, and it's one of the reasons we ought to have a think tank in the Twin Cities to study what went wrong and come up with new, creative ideas to retune the system. We need a group of professionals that would include practicing physicians, physician scholars, medical economists, academicians, hospital executives, HMO executives, and government people, who get together to look at what's happening to the Twin Cities health care system, to see where the flaws are, and to try to correct them.

It's a polarized situation in the Twin Cities. One camp doesn't talk to the other. The legislation that initially came out of the State Board of Health this year to protect the solvency of HMOs completely ignored the solvency of hospitals and physicians. That's a good example of people not talking to each other.

**REECE:** *So you're saying there's no think tank representing or even considering the physician and hospital side of the equation?*

**SCHULTZ:** Hospitals and physicians are not really involved in the planning. They're not a significant part of the Minnesota Coalition on Health, which has had great influence. They're certainly not involved in the thinking and planning of the HMO industry. The state government has not looked to them for advice and counsel. They've almost been seen as the enemy, the adversary, the villain.

**REECE:** *So the policy initiatives have come from elsewhere, not from those who take care of people?*

*It seems to me we should have a fee-for-service institute, or a hospital/physician institute of resident scholars who document quality in the fee-for-service side, who study outcomes and trends, and present policy initiatives for these battered givers of care. If hospitals and physicians collectively fail, or if we lose our brightest people or reduce them to passive servants of their corporate masters, what good is the health system? What's left for ambitious people, or compassionate people, for that matter?*

**SCHULTZ:** I don't know, but we're short on both information and advocates. We need good, solid, factual information. The public and the decision makers aren't getting it from the providers. They're beginning to sense something is wrong as the bottom lines of hospitals deteriorate. That's cause for concern. They also can see HMOs approaching insolvency. They're taking measures to keep

**Schultz** *to page 389*

**ON THE**

**BUSINESS**

**SIDE**

# Managing Employment Decisions to Minimize Liability

*Robert L. Hobbins, Esq.*

Even the most casual observers of trends in litigation over recent years have noted the tremendous increase in lawsuits arising from the employment relationship and accompanied by increasing legislative regulation of that relationship. During this period, court decisions and legislation have resulted in a wide range of new substantive limitations upon the employer's right to discipline or terminate employees. Moreover, the focus of this legislative and judicial activity has not been limited to basic industry or traditional "blue collar" employment. Employee lawsuits have become increasingly commonplace in the professions, in the service sector, and in the office setting. Employee litigants range from entry-level personnel to executives and corporate officers.

All employers would be well served to implement a system that calls into clear focus the applicable substantive limitations regarding discipline and termination of employees. The system should be designed to ensure that decisions are "informed" (i.e., based upon the relevant legal, factual, and practical considerations) and, to that extent, more defensible in the event of a challenge. This article presents several suggestions for managing decisions concerning discipline or discharge of employees with a view to minimizing the employer's risk of liability.

## Preserving "At-Will" Employment

Under traditional rules applied by the courts for many years, the relationship between employer and employee was considered completely voluntary, and either the employer or the employee could terminate it at any time for any reason that was not independently unlawful (e.g., race discrimination). Such employment was known as "at-will" employment, and employers were at liberty to discharge at-will employees without regard to the existence of "just cause" for termination or any other restrictions. Recent decisions by the courts, however, have begun to erode this principle, gradually imposing restrictions on employers' discretion to terminate employees, and more often finding "contracts" (express or implied) that require the employer to show just cause for any termination. The existence of just cause to terminate is generally regarded as an issue to be resolved by a jury, thereby exposing employers to expensive litigation and to the vagaries of jury justice.

This trend toward erosion of the at-will employment doctrine requires that employers carefully examine their procedures for hiring and terminating employees with an acute awareness of the type of situations that can give rise to a claim for wrongful discharge. A discharged employee bent upon litigation will frequently claim that his or her termination was in violation of some "contractual" undertaking between the employee and the employer. These claims turn upon various factual assertions, but those most frequently made involve alleged promises made at the time of hire, representations made in conversations with superiors during the course of employment, or vaguely worded provisions in employee handbooks or company policy manuals. The employee's claims may relate to an alleged guaranteed minimum term of employment, a right not to be terminated except for just cause, or a guarantee that a certain set of disciplinary procedures would be carried out prior to any termination. If the court determines that an agreement was reached on such an issue, it will enforce that agreement by holding the employer liable for terminating an employee in violation of that agreement. Accordingly, it becomes important for employers to insulate themselves from claims based upon such a "contract."

There are several ways in which to do this. One is to enter into, with each employee, a carefully drafted written contract that states the employer's commitments in clear, narrow terms and to disavow any other commitments except as reflected in the document. Although this approach serves, at a minimum, to eliminate future argument about whether there was a contract of employment, it is not particularly desirable for employers with a large number of employees. A much more feasible solution to the problem of employee contract claims is the use of a "disclaimer."

Employers may use appropriately drafted disclaimers to avoid being subjected to any contractual obligations except those which have been carefully adopted by persons acting with authority. Disclaimers are most frequently used to make certain that employment remains "at-will" and that any exceptions to that rule will be the result of authorized written commitments. For example, a general disclaimer in a handbook might state: "This handbook does not constitute a contract or any guarantee of continuing employment. Employment with the XYZ Company is 'at-will' employment, meaning that either party may terminate the employment relationship at any time and for any reason. Your employment status cannot be changed in this respect unless that change is written down in an agreement between you and the company and signed by the company's manager of personnel."

It is best to use such disclaimers at the earliest possible stage of the employment relationship. Accordingly, in addition to inserting such a disclaimer in any employee handbook or other manual, many employers also use a disclaimer of some type on the employment application form itself adjacent to the applicant's signature line. Some employers likewise include a specific reference to the "at-will" nature of the employment in any written employment offer they make. Finally, for those employers who use both employee handbooks (for general circulation to the workforce at large) and supervisory manuals (for limited circulation to managers and supervisors), both manuals typically include such a disclaimer.

As indicated above, a number of court decisions have imposed liability upon employers for failure to follow internally adopted and published disciplinary procedures, without regard to whether the claiming employee might properly have been discharged had those procedures been followed. Although some employers have reacted by discarding any written procedures for the administration of discipline, such procedures frequently do serve a good purpose. A more prudent response may be to incorporate into any published disciplinary rules or procedures a specific reservation of management's right to depart from such rules or procedures as the circumstances seem to warrant. This will preserve some flexibility in the application of disciplinary procedures while leaving in place a desirable format to be followed by supervisors in most cases.

## Progressive Discipline

Even employers who have taken some pains to eliminate contract claims by following procedures like those described above, nevertheless have an interest in ensuring that the discipline and discharge decisions are made with fundamental fairness. In evaluating a potential termination claim, most plaintiffs' lawyers look for facts indicating that the employer acted unfairly toward the employee. Unfairness on the part of the employer can be used to invoke the sympathy of the courts in an attempt to overcome other purely legal obstacles to the pursuit of a claim. The concept of "progressive discipline," which originated in the arbitration of discharge cases under union collective bargaining agreements that typically require "just cause" for termination, lies at the very heart of the fairness issue.

Employers should be sure that their systems for making discipline and discharge decisions comport with principles of progress discipline. The essential premise of progressive discipline is that employees should have notice of the standards of conduct or performance applicable to them and be given an opportunity to correct unacceptable conduct or performance prior to discharge. Progressive discipline is not appropriate in every case. Warnings and an opportunity to correct are certainly not required in the face of intentional, serious misconduct (e.g., theft, sabotage, fighting). Employers will generally find that the appearance of unfairness in their decisionmaking can be avoided by some application of this rudimentary principle. The element of notice involved in progressive discipline can be supplied through the publication of work rules relating to acceptable standards of conduct and the use of periodic performance evaluations to measure productivity. Of course, the employer should be careful to avoid express or implied limitations on its disciplinary authority in publishing such work rules. For example, unqualified "laundry lists" purporting to specify particular types of conduct that will result in particular types of discipline generally are a poor idea. Any written itemization of work rules should include reference to management's right to impose such discipline as it deems appropriate depending upon the particular facts and circumstances of any given case.

A good performance review program can be a very effective element of an overall system for making employment decisions. A documented history of poor performance by the employee resulting in warnings from the employer can be extremely valuable evidence in any employment-related case, whether the legal issue involves termination "for cause," discrimination on the basis of some protected characteristic (e.g., race, sex), or any other claim that calls into question the true reason for termination or discipline. To the extent that the employer can present facts showing that it acted "reasonably" and had a "good cause" for termination, the risk of an adverse result should be dramatically reduced.

As helpful as a good performance appraisal system can be in defending employment-related claims, it must be noted that the record made by a poorly administered performance appraised system may be a serious liability for the employer. Evaluation procedures can degenerate to the point where every employee receives a "good" rating regardless of actual performance. In that case, not only will sustained periods of poor performance go undocumented, but even worse, the employee may be able to show "good" performance ratings during such periods. If the employer does not ensure that those administering its evaluation procedures provide candid and, where appropriate, critical evaluation of performance, then the system cannot achieve its intended goal. For an effective performance appraisal system, top management should make it clear to persons performing these evaluations that this task is a very important element of their own job performance, and that they will be evaluated themselves in large part on the basis of their effectiveness in administering the evaluation of their subordinates.

All employees should be trained with regard to the evaluation process. Evaluators must provide a candid, truthful appraisal of employee performance. The appraisal must be based upon clearly relevant criteria related to the requirements of the employee's job. Obviously, an accurate and current understanding of job requirements is an essential part of the system.

The performance appraisal should be presented to the employee personally, and the evaluation process should be explained along with all the facts relating to performance. The substance of the evaluation should be recorded on an appropriate form. Neither the form nor the methods involved need be elaborate—what is important is that: (a) the employee receives a meaningful appraisal of how he or she has been doing, and (b) the information communicated to the employee is appropriately documented. In most cases, there should be opportunity for employee input. If the employee chooses not to provide any written reaction, it will be more difficult for the employee to argue later that the appraisal was incorrect. On the other hand, if the employee makes written comments questioning the evaluation, those comments provide the employer with an opportunity to review the accuracy of the appraisal and to take whatever action may be appropriate. Many times, the potential for a problem between a supervisor and a subordinate will be exposed at a very early stage in this way. If employees have the feeling that the evaluation process is open and fair, the employer is much more likely to receive meaningful feedback.

Recent developments in the areas of defamation and employee privacy suggest that persons involved in the discussion of employee performance appraisals or employee discipline should be only those who have a "need to know"—that is, only those persons who have a legitimate and work-related interest in that particular employee's status. Records of employee performance evaluations and employee discipline should be maintained in a way that protects confidentiality. Employees involved in filing and handling records of this type should be trained with respect to the employer's confidentiality requirements so that access to such records will be limited and so that the employees themselves will avoid any disclosure of the information they may acquire from these documents.

## Disciplinary Alternatives to Discharge

Employers can also minimize the risks of employment litigation by recognizing and using the full range of disciplinary options available to them. Outright termination may not be an appropriate response in cases of relatively minor misconduct or isolated instances of poor performance. Conversely, the employer need not refrain from responding to such matters until the problems have worsened. Interim steps in the disciplinary process should include the use of probation and suspension where appropriate. Even if termination eventually results, the employer's use of these interim steps should enhance its ability to defend the termination by demonstrating prior notice and opportunity for correction consistent with notions of progressive discipline.

Probation can be used to underscore the seriousness of an employee's performance or conduct and to give clear notice that the employer's job is in some jeopardy. Ordinarily, probation involves the imposition of certain conditions upon the employee's continuing employment, at least for a certain period of time. The conditions of probation should make absolutely clear to the employee what *must happen* and/or what *cannot happen* during that time. For example, an employee with attendance problems may be advised that if he or she is absent or tardy for any reason other than documented illness on any work day during the next two months, he or she will be terminated. Ordinarily, an employee being placed on probation should receive and sign off on a memorandum covering the terms of probation and the consequences of failure to observe those terms. Follow-up in such situations is of critical importance. If an employee fails to adhere to the conditions of probation without suffering any consequences, this tool will be rendered valueless.

Suspension may be used in cases of misconduct by an employee with an otherwise lengthy record of good conduct or in the face of repeated performance problems not yet sufficiently serious to justify termination. Suspension may likewise be used to address the recurrence of conduct for which the employee has earlier completed a period of probation. Suspension represents a very serious warning and has immediate financial consequences when it is imposed without pay. A suspension without pay should leave no doubt in the employee's mind as to the seriousness of the matter. Suspension should be accompanied by a written memorandum explaining the reasons for the suspension, its duration and terms, and the consequences (usually termination) of any recurrence of the type of problem for which suspension has been imposed.

The use of suspension or probation provides the employer with an opportunity to impose meaningful discipline, while making a very good record for any termination that may ultimately occur. Moreover, an employee who has been subjected to probation or suspension frequently will decide to seek employment elsewhere, resolving the problem by resignation.

## Termination: Timing is Key

Finally, even when the employer is intent upon termination, some thought should be given to its timing. It is difficult to justify a termination during subsequent litigation on the basis of facts discovered after the employee's termination. Accordingly, a thorough investigation of the facts relating to the grounds for termination should be completed before the decision is announced. This may present an occasion for suspending an employee (with or without pay) pending the completion of an investigation of the incident or problem.

In almost every case, the employee should be given the opportunity to explain or respond to the charges the employer is considering as a basis for termination. Failure to confront the employee prior to making the termination decision may result in the later disclosure of facts which might have led to a different decision. To the extent that the employee admits the charges, the employer's decision is made easier. To the extent the employee has an explanation, however unpersuasive, it is best to know about this before the decision has been made and litigation ensues. If the employee's response includes demonstrable falsehoods, these provide additional justification for termination. In many cases, it will also be appropriate to interview other employees who may have firsthand knowledge of the facts under consideration.

Yet another reason for deferring a termination decision may be to ensure a neutral, objective review of the facts. A supervisor who has been involved in a direct, personal confrontation with the offending employee should rarely be allowed to make an immediate termination decision without review by someone less directly involved. A decision made in haste and anger by a person who is emotionally involved in the matter may be more difficult to defend in a subsequent lawsuit. Moreover, an opportunity for an independent, neutral review may result in better development of the facts and greater regard for prior practice and precedent, thereby ensuring consistency in disciplinary decision-making.

## Informing the Employee

Finally, when termination occurs, employers should be aware that Minnesota law provides that a terminated employee may demand to be informed of the reason for termination. Upon receipt of a written request made within five working days of the termination, the employer must provide, in writing, a truthful statement of the reason for the discharge within five working days after receiving the request. Employers are also obliged to make terminated employees aware of this right. The Minnesota Department of Labor & Industry has developed a poster, which is available to employers for use in satisfying this obligation. It is recommended that a termination conference be held with the employee to explain the fact of termination and the benefits available to him or her upon termination. The employee should be advised that Minnesota law permits the employee to be informed in writing of the reasons for termination if the employee so requests.

It is essential to be direct and honest with the employee during a termination conference. If the actual reasons for the termination are not stated, the employer's position may be weakened if it must acknowledge later on that it was not totally candid with the employee. There is a tendency to use non-personal reasons for termination (''not enough work available,'' ''reorganization,'' etc.) to soften the impact on the employee. Many times, the actual facts will not support the reason as stated, because the real reason had to do with poor performance, lack of skill, etc. Even if the reasons for being less than candid concerning the basis for termination were totally altruistic, this lack of candor may harm the credibility of the employer's defense. Moreover, in today's legal climate, the employer can never be sure that an employee will not sue. While ordinarily there should be more than one employer representative present during the termination conference, only those management representatives who have a need to be involved should be present.

## Conclusion

Employers need to be aware that their discipline and termination of employees is more likely to result in litigation today than at any time in the recent past and that this is true in all types of employment. Careful management of the discipline/termination process with a view to the legal restrictions under which employers must operate in this arena is essential to minimizing the risk of litigation and maximizing the chances of employer success if it does occur.

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*Robert Hobbins is an attorney with the law firm of Dorsey & Whitney in Minneapolis.*

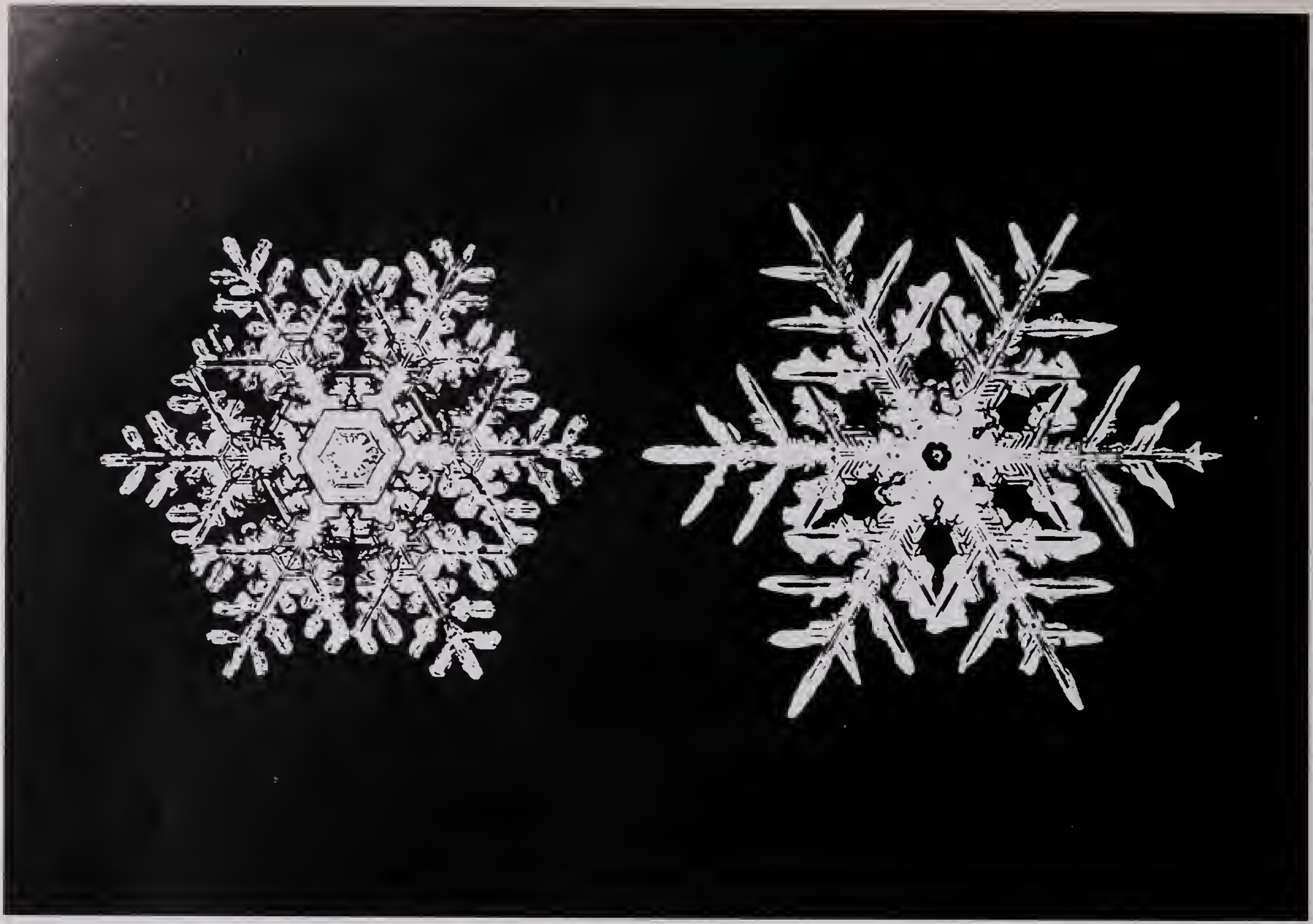
## **Schultz** from page 385

them solvent. There is a place for a provider think tank. There also is a place for a broadly based group that includes medical economists and academicians, and that conducts the research needed to answer questions about these disturbing changes.

I believe DRGs were prematurely put into operation without adequate research into the probable consequences. The Yale group had very little experience when it did the research. Suddenly, the federal government embraced it and put it into effect across the country. Now we have people being pushed out quicker and sicker or being dumped for economic reasons.

**REECE:** *Do you think the double-whammy of DRGs and HMOs has cut the legs out from under the hospitals and doctors in the Twin Cities?*

**SCHULTZ:** Yes. Rapid introduction of prospective reimbursement changed everything. The government cooked up the prices of DRGs and arbitrarily said, ''This is what we'll pay you.'' HMOs began to sell services cheaper and cheaper without really talking to providers. HMOs only went to the providers to get discounts or to tell them they were holding back their fees. Eventually, they sold services below the cost the providers had. This has resulted in near insolvency of the provider system. In addition, by selling the services at an increasingly cheaper rate, HMOs found that they were becoming insolvent. I see the whole health care delivery system in Minnesota as not only fragile but one step away from bankruptcy. ■



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## JUNE 1988

3-5 **Maxillofacial Trauma** Office of CME, University of Minnesota; Health Sciences Center, University of Minnesota, 515 Delaware Street SE, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

8-10 **Computer-Based Medical Systems** Office of CME, University of Minnesota; Hyatt Regency Hotel, 1300 Nicollet Mall, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

8-10 **World Med '88** Office of CME, University of Minnesota; Hyatt Regency Hotel, 1300 Nicollet Mall, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

8-11 **Orthopaedic Surgery Review** Office of CME, University of Minnesota; Radisson Plaza Hotel, 35 South 7th Street, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

15-18 **Annual Surgery Course: Progress in Gastrointestinal Surgery** Office of CME, University of Minnesota; Willey Hall, Minneapolis Campus West Bank, 225 19th Avenue South, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

17 **New Strategies in Clinical Practice** Hennepin County Medical Center/Hennepin Faculty Associates; Holiday Inn, Bemidji, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2074.

20-22 **Topics and Advances in Pediatrics** Office of CME, University of Minnesota; Radisson University Hotel, 615 Washington Avenue SE, Minneapolis, Minnesota. CONTACT: Bart Galle, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

21 **Orthopedics - CME** Mesabi Regional Medical Center; Mesabi Regional Medical Center, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, Hibbing, Minnesota 55746; (218) 262-4881, ext. 259.

JUNE 22 - JULY 5 **Scandinavia Air/Sea Cruise Aboard The Royal Viking Sky.** CONTACT: Harold Brunn, North Central Medical Conference, 1845 Hampshire Avenue, Suite 200, St. Paul, Minnesota 55116; (612) 698-1888.

24 **Sport and Health** Minnesota Amateur Sports Commission; Holenbeck Hall, St. Cloud State University, St. Cloud, Minnesota. CONTACT: Allan Ryan, M.D., 4510 West 77th Street, Edina, Minnesota 55435, (612) 831-4121.

24-26 **PanAm Pigment Cell Society** CME, University of Minnesota; 3-110 Moos Tower, 515 Delaware Street SE, Minneapolis, Minnesota. CONTACT: Office of CME, Box 202, UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

JUNE 24 - JULY 8 **Europe: East and West** CONTACT: Harold Brunn, North Central Medical Conference, 1845 Hampshire Avenue, Suite 200, St. Paul, Minnesota 55116; (612) 698-1888.

## JULY 1988

7-8 **Advanced Trauma Life Support Seminar** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

10-19 **Queen Elizabeth 2 and London** North Central Medical Conference; Aboard the Queen Elizabeth. CONTACT: Harold Brunn, North Central Medical Conference, 1845 Hampshire Avenue, Suite 200, St. Paul, Minnesota 55116; (612) 698-1888.

15-27 **Italy and the Swiss Alps** North Central Medical Conference. CONTACT: Harold Brunn, North Central Medical Conference, 1845 Hampshire Avenue, Suite 200, St. Paul, Minnesota 55116; (612) 698-1888.

20 **Hematology - CME** Mesabi Regional Medical Center; Mesabi Regional Medical Center, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746; (218) 262-4881, ext. 259.

JULY 29 - AUG 9 **Luxury Yachting on the French and Italian Rivieras** North Central Medical Conference; Aboard the Sea Goddess. CONTACT: Harold Brunn, North Central Medical Conference, 1845 Hampshire Avenue, Suite 200, St. Paul, Minnesota 55116; (612) 698-1888.

## AUGUST 1988

5-6 **General and Peripheral Vascular Laser Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

13-18 **First Annual HCMC Summar Conference** Hennepin County Medical Center/Hennepin Faculty Associates; Lindmeiers North Shore Lodge, Ontario, Canada. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2075.

16 **Cardiology—CME** Mesabi Regional Medical Center; Mesabi Regional Medical Center, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746; (218) 262-4881, ext. 259.

19 **Dermatology for the Primary Care Physician** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2075.

## SEPTEMBER 1988

15-16 **Eleventh Annual Trauma & Critical Care Conference** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2075.

16 **Regional Conference on Angioplasty** Abbott Northwestern Hospital; Radisson Plaza Hotel, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

21 **Dermatology—CME** Mesabi Regional Medical Center, Mesabi Regional Medical Center, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746; (218) 262-4881, ext. 259.

23 **Common Neurologic Quandaries for Primary Care** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2075.

30 **Medical Oncology for the Internist** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2075.

30 **Guilt: Recognition, Understanding, Letting Go** St. Paul-Ramsey Medical Center; Earle Brown Center, St. Paul, Minnesota. CONTACT: Bonnie Young, St. Paul-Ramsey Medical Center, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

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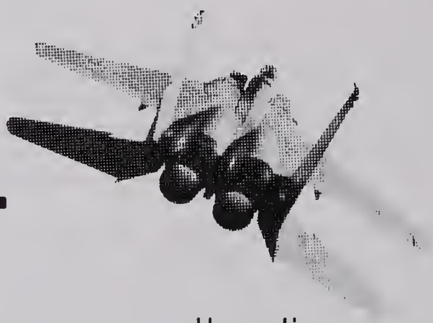

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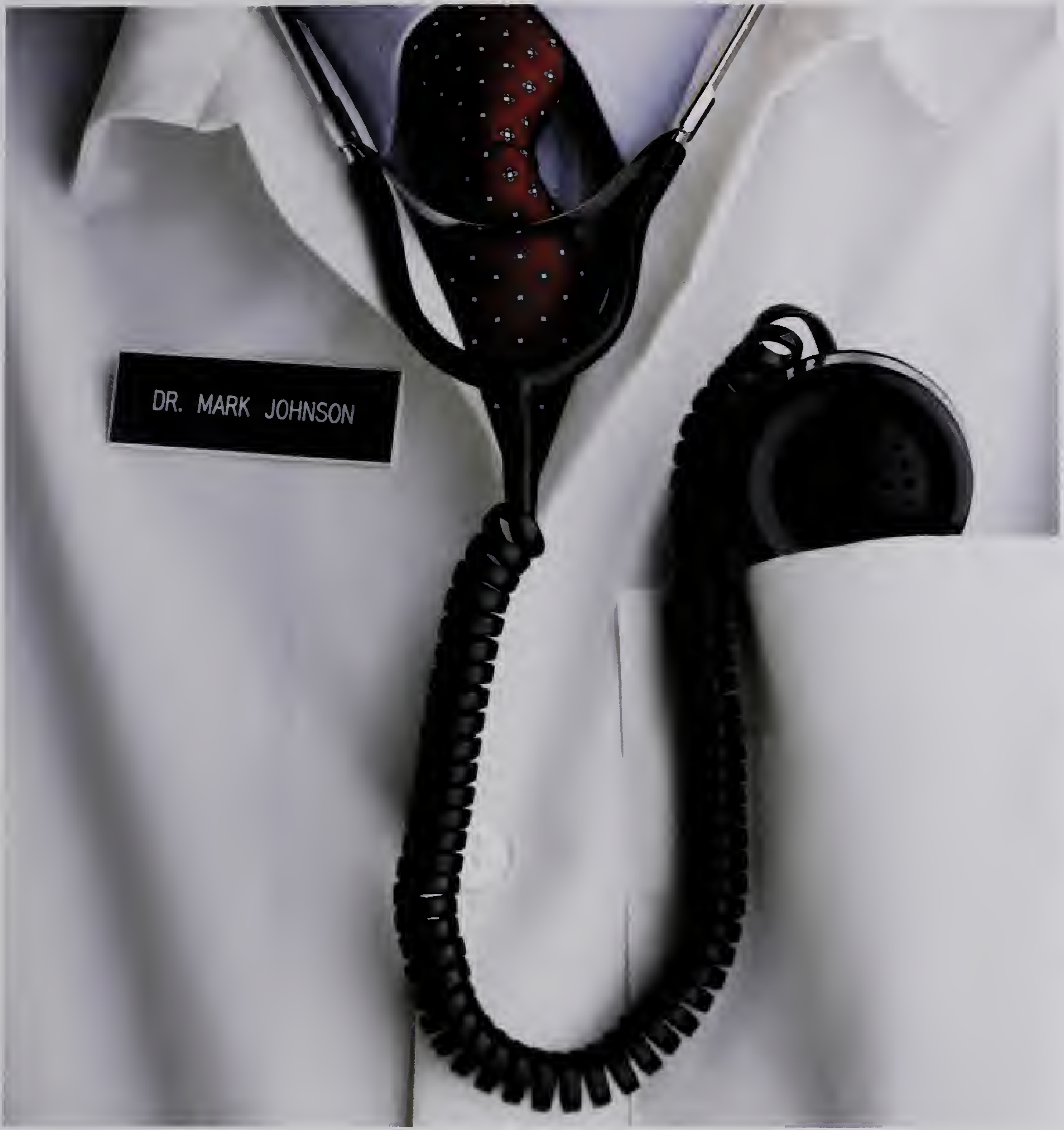

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**MAKING PEACE WITH DEATH** This month's cover illustrates the intensity of our feelings toward death — feelings that are perhaps more complex for healers, who are trained to defy what is ultimately inevitable. The story it illustrates is about how physicians and other health care professionals can help patients to die and help the bereaved to survive. It's about grieving and healing and living.

Cover illustration by Diann Parrott, a Minneapolis graphic designer/illustrator.

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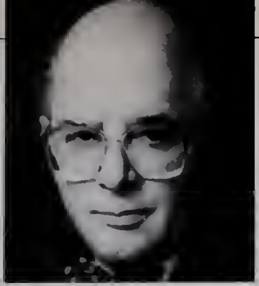
RICHARD L. REECE, M.D.

# On Directing an Editorial Circus

After 15 years on this job, I've decided editing a medical journal resembles running a circus.

First of all, you have to learn to fill in for the other performers when they fall ill, flee, or drop their act.

► Take the contortionist. He's the editor with his finger to the wind, his eye on the horizon, his chin in the air, his ear to the ground, and his nose to the grindstone. I've filled in for him many times.

► Or take the clown. He's the diversionary act—the guy who takes the mind of the audience off the pitfalls and the pratfalls of the other performers. I've played the clown—in humorous essays, wicked satires, and pun-filled stories.

► Or take the ringmaster. He's the one who keeps all the animals running in ever-decreasing concentric circles with ever-increasing velocity, with such bravado, that the onlookers don't realize the beasts are running in different directions. The ringmaster lets the audience know these different speeds and directions are OK because the animals hail from different places in the state and have different states of mind.

► Or consider the fellow who directs the medical balancing and juggling acts—urban vs. rural, group vs. solo, specialist vs. generalist, procedural vs. cognitive, old vs. young, conservative vs. liberal, centralized vs. decentralized, academic vs. nonacademic, and individualist vs. groupie. Now there's somebody I admire—someone, who on the one hand, can keep all the balls and bodies in the air, and, with the other, keep the safety net taut.

In this issue, you will find an example of such a balancing act. For a long time, I have neglected to balance the news and views of the Twin Cities against the news and views of those in outstate Minnesota.

To restore this act, at least temporarily, I have interviewed two gentlemen—one a family practitioner from Hibbing and the other a pathologist from Albert Lea. These interviews will, I trust, give greater balance to *Minnesota Medicine*, or, if you prefer a nicely balanced phrase, medical balance to greater Minnesota.

*Illustration by Kathleen Berntson*

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***And Who Shall Care for the Sick?***

A collection of Dr. Richard Reece's *Minnesota Medicine* editorials from 1983-1987. These editorials chronicle the corporate transformation of medicine in Minnesota and put our state's experience with HMOs into perspective. Through this book, perhaps others can learn from our triumphs, our mistakes, and our experience. The 20-chapter paperback book, published by Media Medicus, Inc., will be available in area bookstores by mid-July and sells for $12.95. Or, if you'd like to order a copy of this new book, please contact:

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# A Prairie Home Pathologist

**REECE:** *Dr. Wogensen, you have a practice background that includes seven years spent in the Twin Cities and seven years here in Albert Lea. You graduated from the University of Minnesota Medical School in 1965, did your residency at the Veterans Hospital in the Twin Cities, spent seven years at St. John's Hospital in St. Paul, and you've been at the Naeve Hospital in Albert Lea since 1981. What are the trade-offs between urban and small-city life in the life of a doctor?*

**WOGENSEN:** Smaller-town life is more tranquil in many ways. There is a feeling of being more a part of a community in a small town. One becomes involved with many activities very easily. That makes life interesting, if you like a sense of belonging. Perhaps the lack of traffic problems and wasted time getting from one place to another contribute to the greater peace of mind. I think one can accomplish more things with greater ease.

**REECE:** *So you have to keep a lot of balls in the air here. I understand you carried this metaphor to its extreme: You started a soccer league in Albert Lea.*

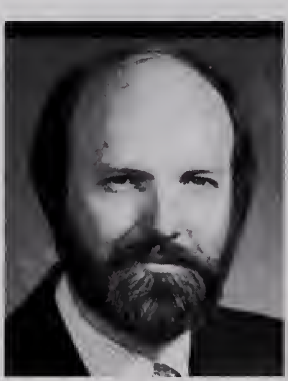
**WOGENSEN:** There was no soccer league in Albert Lea, so I helped start one. It's hard to do something like that in a big city, but it was easy here. When you have a special knowledge that doesn't exist, you're the only game in town. You're free to create and to build.

**REECE:** *And you're also involved in a partnership to restore an old hotel to its pristine past beauty.*

**WOGENSEN:** Yes. Such are the activities one gets involved in by being part of a community.

**REECE:** *What are the differences in the medical environment in Albert Lea and the Twin Cities?*

**WOGENSEN:** No competition exists among physicians who serve this community. All the physicians belong to one clinic and progress forward together. The competition in a town like this is on the fringe areas of our territory where other cities need patients as much as we do and compete for them.



JON WOGENSEN, M.D.

**REECE:** *How big is the Albert Lea Medical Group? How many doctors and how many satellites?*

**WOGENSEN:** We have 37 doctors with six satellites, including two in Iowa and three in other counties adjacent to Freeborn County.

**Wogensen** *to page 447*

*Jon Wogensen, a pathologist in Albert Lea, will forgive me when I say he reminds me of his house. After all, he fits the house, a prairie-style structure built in 1914.*

►*Above all, the house has great comfort. And comfort is what I felt as I interviewed Jon in a bright sun room in one corner of the house.*

►*The house has room for plenty of books. And Jon and his English-born wife, Betty, are unabashed and unapologetic bibliophiles, as I am.*

►*The house possesses 65 multipaned windows, allowing light and breezes to enter. Jon has an accessible, well-ventilated mind, which he keeps open even when he is close enough to feel the panes.*

►*The house, like Jon's desk at the hospital, has a certain orderly chaos. I happen to believe a cluttered desk is often the mark of a person who prefers accomplishment to order.*

►*The house befits someone who enjoys the life of a reflective, pipesmoking, country gentleman with a passion for gardening. Jon qualifies on all counts. Besides, there's nothing that beats being out in your briar patch with your briar pipe, especially if you have a sense of humor.*

►*The house is a perfect refuge for a man seeking respite from a busy life. And Jon is busy as he plays the multiple roles of pathologist, medical educator, medical librarian, civic activist, gardener, and prairie home companion.*

# Gentle Ben—A Champion for Underdogs on the Iron Range

REECE: *Dr. Owens, you've practiced in Hibbing, Minnesota, for 30 years. You are, therefore by definition, an Iron Ranger, which I understand is somebody with iron in his blood, steel in his spine, and gold in his heart. How have you enjoyed your practice in Hibbing?*

OWENS: I've enjoyed it very much.

REECE: *You're in a 14-man group now?*

OWENS: A 14-man multispecialty clinic.

REECE: *What are the differences in medical practice in Hibbing compared with the Twin Cities? Are you having difficulties recruiting specialists? I understand you're looking for internists subspecializing in nephrology, pulmonology, and oncology. And you're also trying to recruit a surgeon.*

OWENS: Number one, we're trying to recruit a general surgeon. We now have four internists in Hibbing. We're trying to recruit two more.

REECE: *What is your difficulty in recruiting? How long have you been looking?*

OWENS: We've been looking over a year for a surgeon and about six months for these other people. One of the difficulties is that Hibbing is regarded as economically distressed. The Twin Cities newspapers, without intending to, have painted a picture of soup kitchens and unemployment lines. Our location is a problem, too. If you did not grow up in Hibbing or vacation there, it looks ominous on the map next to Canada. We're often portrayed on TV and the radio as the coldest place in the United States. However, hardy Iron Rangers relish and thrive on our reputation as eskimos in the refrigerator of the nation.

BEN P. OWENS, M.D.

REECE: *So you Iron Rangers derive pleasure from your perversity toward adversity. But as you live and practice there, I'm sure it's not nearly as ominous as it looks from the outside. It isn't the pits, is it?*

OWENS: No, we think it's God's garden spot.

REECE: *That's what I like—a man with a sense of humus. How's the morale of the physicians currently practicing in this garden spot? How do you view the scene? Are you optimistic?*

OWENS: We are always optimistic. We're coming back. The decline in mining operations has reached its bottom, and now it's coming up and is improving. The work force is at 40 percent of what

*continued*

*Ben P. Owens, M.D., bachelor physician and stalwart family practitioner, specializes in underdogs. To him, patients symbolize underdogs in the game of life. So do doctors who toil in the fields and in the pits to uplift those patients. The vision of huddled masses of immigrants coming to Ellis Island early this century and then slaving in the iron mines of northern Minnesota has left its imprint.*

*If the higher authorities in the sky ever see fit to color-code humanity, they will surely make Ben a warm and lively gold. Ben radiates warmth from every pore and for every living thing. He's a bachelor because Medicine is his mistress. He lives it, loves it, breathes it, and relishes it—from the time he arises, to his encounters of the right kind with his patients, to his political exchanges with his fellow physicians. To Ben, being a doctor is simply his way of expressing his love for his fellow man.*

*Before you read me wrong, let me add, Ben will never qualify for sainthood. He is too breathtakingly frank in his opinions, too hearty in his love for earthly pleasures, and to lustfully partisan in his support for underdogs to be a saint.*

*Besides, he believes every dog, indeed every underdog, should have his right to health and his right to have his day. On behalf of readers of this interview who have not yet had the pleasure of reading your words, I'm sure they will join me in thanking you, Ben, for your wit, your candor, your crustiness, and your love.*

it was at its peak. Thus, the mining industry has stabilized, and we are looking for other industries. We have warm, wonderful people; an excellent work force; pure air; pure, plentiful water; low crime; and an excellent educational system. We have magnificent cooks and food, superb all-season recreation facilities, and great ethnic traditions.

REECE: *Two years ago the MORE HMO failed. Was that in Hibbing?*

OWENS: No, it was in Virginia, 22 miles from Hibbing.

REECE: *How did MORE's failure influence your perception of HMOs, and how did that affect your practice?*

OWENS: The failure confirmed our impression that the HMO modality is basically flawed and beset with problems. It was actually frightening to see a clinic become bankrupt that had been in existence since the turn of the century and had survived the Depression.

REECE: *What clinic was that?*

OWENS: The Lemont-Peterson Clinic, a fine 14-man multispecialty clinic of good physicians, founded by Dr. Peterson, who was a pioneer in founding clinics with the mining companies.

REECE: *MORE failed, although the Iron Range had a tradition of prepaid care dating back to the 1890s. Back then, mining companies had you care for people for a fixed amount of money each month. That prepaid tradition carried through to the early '60s. You didn't look at prepaid care as flawed then, did you?*

OWENS: It was a very different system from a present-day HMO. Voluntary deductions were made from an employee's paycheck and sent to the clinic. This amount covered inpatient and outpatient medical services, common medications, and house calls.

Employee benefit insurance, Blue Cross/Blue Shield, covered all hospital expenses and all surgical procedures, elective or emergency. It applied locally and at the tertiary referral center.

All referrals were the responsibility of the patient/employee, and the clinics were at no further financial risk.

The clinic doctors negotiated the amount of the deductions with the mine union health committee. Regular meetings determined the monthly fee.

**With the stroke of a pen, some corporation or insurance company may take all of a doctor's patients and put them in another medical facility. These feelings are frightening and discouraging and take the joy out of medicine.**

REECE: *So physicians had a sense they were in control of the governance?*

OWENS: We controlled the governance. We didn't always get what we wanted, but we were in charge of the administrative part of it, and we did our own negotiating.

REECE: *Why did the prepaid concept that had been there so long disappear?*

OWENS: It disappeared because people in the mine unions were strong and supportive of the best care for their people. They threw prepaid care out, negotiated it out, demanded it be removed. They wanted a different system.

REECE: *Because the unions wanted more places for their members to choose from?*

OWENS: Yes, union members wanted free choice. They did not want to be, as they used to call it, "locked in" to a specific clinic.

REECE: *So they wanted to go to the University, to Mayo, to Duluth?*

OWENS: That's correct. But people always did that anyway. Actually, what they paid to the clinic then was quite low. After World War II, it was two dollars a month for the entire family for most drugs and injections—what we call cognitive services now. People didn't hesitate to go to Rochester, or elsewhere, if they weren't getting well. They were very independent. They came all the way from Europe on a boat with a tag on them to go to Ellis Island. They didn't hesitate to go to Minneapolis or Rochester on a bus and pay to get well.

REECE: *Where do most of the referrals go from the Mesaba Clinic now? Do you refer where you want? Do you have arrangements with the University? With Twin Cities specialists? With Duluth?*

OWENS: We, as always, refer wherever we think is best for that particular patient. We do have a recent association with the University. It's been very good, and more referrals are going there all the time.

REECE: *How does that "association" work?*

OWENS: The University sends up specialists who see people in our clinic and the Adams Clinic in Hibbing. People don't have to leave town to be seen by these specialties. Then one afternoon every month one of the professors comes to Hibbing to talk for four hours. We close both clinics and hold an educational seminar. That's been going on for 35 years. The Mayo Clinic also assists us equally in this manner. This relationship provides wonderful, accessible postgraduate education for us.

REECE: *Is it a two-way street? Do any of you go to the University for refresher courses?*

OWENS: Yes, one internist has gone down one month out of every four for the last year to train in critical care medicine and intensive care. He is now certified in critical care medicine. He runs our ICU, which has been very good.

We hope traffic on this two-way street will continue so our people may go down to the University for a period of time and come back with more current knowledge and skills.

REECE: *You have a sophisticated medical center in Hibbing. For example, you have a seven-station dialysis unit. Who runs that, and how does it work?*

OWENS: The internists in our clinic and the other clinic run the dialysis center in conjunction with Hennepin County. People who need new lines put in go down to the Twin Cities for that.

REECE: *So you have a connection with the Regional Dialysis Center at Hennepin County Medical Center?*

OWENS: Yes, they're good, too; that's their expertise. Again, we do this to best serve our patients. Doctors there teach us about hypertension, renal disease, and other subjects. We've been fortunate to be able to keep abreast of things in this manner.

REECE: *Speaking of keeping abreast, you've just been to the state medical association meeting. What were the hot topics there? What was the mood of the meeting?*

OWENS: The mood of the meeting was vital and invigorating. There were many more participants in the political process of debate and discussion of the issues. Physicians of all ages participated. Not just the "good old boys," as they did in the past when there was less going on.

REECE: *What issues were people concentrating on?*

OWENS: The most talked about issues were the low Medicare payments and medical reimbursement disparities for patients in different parts of our state and the country. We also talked about the Competition Committee's report, a two-year report evaluating the effects of competition on the profession.

REECE: *Let's take these one at a time. First, the Medicare disparity payments by counties throughout the United States. What is the magnitude of these disparities?*

OWENS: Payment can vary by a factor of three or four. The peak was in Dade County, Florida. Miami, for instance, receives double the payment the Twin Cities receives for Medicare patients, and four times as much as certain counties in outstate Minnesota.

REECE: *And yet the expenses of conducting a practice in outstate Minnesota are not one-fourth what they are in Miami.*

OWENS: They certainly are not. In many counties, expenses are greater. We have to provide a kidney dialysis center in Hibbing for a small number of patients. The per unit cost of dialysis treatment is higher. Or in Ivanhoe, for example, the cost of maintaining X-ray equipment and laboratories is higher than in the Twin Cities.

REECE: *So there is really kind of an urban/rural payment gap for patients. As I understand it, the result of it is: 1) doctors are paid less for patient care in the rural parts of the United States; 2) to stay economically viable the physicians balance bills; and 3) physicians come out looking like the bad guys even though the overall Medicare bill is less.*

**A family physician who would try to practice solo at this time and be on call 24 hours a day would have a nigh impossible time.**

OWENS: You've got it.

REECE: *There seems to be a further compounding element here. People in outstate Minnesota have a higher proportion of elderly patients. You not only have more elderly patients, but you're paid less for them.*

OWENS: That's correct.

REECE: *Do you have any hope that this national payment system for Medicare will be rationalized and these payment differences will be narrowed?*

OWENS: I certainly hope so. We feel it should be elevated on our end rather than lowered on the other end.

REECE: *The second issue you brought up was the Competition Report by the MMA's Ad Hoc Committee on Competition. This report had been in the works for two years. The committee issued eight recommendations. Were some of these controversial?*

OWENS: Some of them were controversial and were referred to the MMA Board of Trustees for further study and action.

REECE: *What was controversial?*

OWENS: Mostly recommendations pertaining to HMO enrollments and activity the doctors conduct in caring for their patients.

REECE: *Are we talking about the central issue, i.e., capitated plan physicians are paid more to provide less care, while in a fee-for-service system, physicians are paid more to provide more care? Is that the gut issue?*

OWENS: That seemed to be one of the gut issues. The concern of the Committee on Competition is that care somehow would be rationed under a capitated system. They are also worried that HMOs and other third-party payers, rather than the patient's best interests, will dictate where physicians refer their patients.

REECE: *Let's return to Hibbing. I'm gathering you've led a full and active life in Hibbing.*

OWENS: I've enjoyed being a doctor immensely. I just love being a doctor. I love doctors. I love the profession. I've always loved reading about it. It's my hobby. It's yours, too. I just feel very sad that some younger physicians do not have the enthusiasm and the zest.

In the past, we awoke every morning with that "something interesting is going to happen" feeling. Many times now in the morning in the doctors' rooms in the hospital, you hear prophecies of gloom and doom. Is the hospital going to survive? Will the income discrepancies be corrected? Will the megacorporations swallow us? Will a doctor's life work be rubbed out with a stroke of a pen?

There's the strong feeling that these things happen no matter what the quality of your practice or how hard you've worked. With the stroke of a pen, some corporation or insurance company may take all of a doctor's patients and put them in another medical facility. These feelings are frightening and discouraging and take the joy out of medicine.

REECE: *So arbitrary economic decisions by third parties and the fast-changing economic environment have undermined the satisfactions of medicine.*

OWENS: Definitely. Before, if you did your best work and took the very best care of patients, everything would come to you. That was true, and I think it's still true today. If you do your job and take real good care of people, everything else will turn out quite well for you. But it's not entirely true in certain regions. That's why the young doctors are wary.

They go to a place and work very hard, suddenly somebody signs a contract and their practice is gone. Sixty percent of it has been transferred to another facility because someone who is interested in the "bottom line" has made an agreement to deliver the care for less at another place. These decisions used to be based on quality and service.

REECE: *So in this era of deal-making, human diligence, integrity, high quality, and service are irrelevant?*

OWENS: They're not irrelevant, but they've been degraded to the point where people sometimes make fun of a person who's real conscientious. That's extremely sad. When you have to deal to cut it in practice, you've reached a sad state.

REECE: *It's not only saddening, but it breeds cynicism.*

OWENS: It breeds cynicism, pessimism, and actual depression. Doctors can't function well in that environment. I'll always remember a partner we had who was the golf coach. He said never go to dinner with poor putters because all they do is complain all night long that they can't do this, they can't do that, and pretty soon you're going to be like them. You're going to be negative, you're going to be unsuccessful, you're going to be a loser—you'll get a loser mentality. And that's what I see sometimes—a loser mentality—in the doctors lounge.

REECE: *How can we convert that loser's mentality into a winner's mentality?*

OWENS: I don't know all the answers. But we don't want to talk about bad things all the time. We should activate young doctors to

**Owens** *to page 411*

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†Pooled mean serum potassium following oral administration of 30 mEq K-Tab compared to 24 mEq Slow-K in diuretic-treated hypertensives (n = 20) over 8 weeks.

C I B A

**References: 1.** Data on file, CIBA Pharmaceutical Company **2.** Skoutakis VA, Acchiardo SR, Wojciechowski NJ, et al: Liquid and solid potassium chloride: Bioavailability and safety. *Pharmacotherapy* 1980;4(6):392-397. **3.** Skoutakis VA, Carter CA, Acchiardo SR. Therapeutic assessment of Slow-K and K-Tab potassium chloride formulations in hypertensive patients treated with thiazide diuretics. *Drug Intell Clin Pharm* 1987;21:436-440.

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**Slow-K®**
**potassium chloride USP**
**Slow-Release Tablets**
**8 mEq (600 mg)**

*BRIEF SUMMARY (FOR FULL PRESCRIBING INFORMATION SEE PACKAGE INSERT)*

**INDICATIONS AND USAGE**

**BECAUSE OF REPORTS OF INTESTINAL AND GASTRIC ULCERATION AND BLEEDING WITH SLOW-RELEASE POTASSIUM CHLORIDE PREPARATIONS, THESE DRUGS SHOULD BE RESERVED FOR THOSE PATIENTS WHO CANNOT TOLERATE OR REFUSE TO TAKE LIQUID OR EFFERVESCENT POTASSIUM PREPARATIONS OR FOR PATIENTS IN WHOM THERE IS A PROBLEM OF COMPLIANCE WITH THESE PREPARATIONS.**

1 For therapeutic use in patients with hypokalemia with or without metabolic alkalosis; in digitalis intoxication and in patients with hypokalemic familial periodic paralysis.

2. For prevention of potassium depletion when the dietary intake of potassium is inadequate in the following conditions: patients receiving digitalis and diuretics for congestive heart failure; hepatic cirrhosis with ascites; states of aldosterone excess with normal renal function; potassium-losing nephropathy; and certain diarrheal states.

3 The use of potassium salts in patients receiving diuretics for uncomplicated essential hypertension is often unnecessary when such patients have a normal dietary pattern. Serum potassium should be checked periodically, however, and if hypokalemia occurs, dietary supplementation with potassium-containing foods may be adequate to control milder cases. In more severe cases supplementation with potassium salts may be indicated.

**CONTRAINDICATIONS**

Potassium supplements are contraindicated in patients with hyperkalemia, since a further increase in serum potassium concentration in such patients can produce cardiac arrest. Hyperkalemia may complicate any of the following conditions: chronic renal failure, systemic acidosis such as diabetic acidosis, acute dehydration, extensive tissue breakdown as in severe burns, adrenal insufficiency, or the administration of a potassium-sparing diuretic (e.g., spironolactone, triamterene) (see OVERDOSAGE).

All solid dosage forms of potassium supplements are contraindicated in any patient in whom there is cause for arrest or delay in tablet passage through the gastrointestinal tract. In these instances, potassium supplementation should be with a liquid preparation. Wax-matrix potassium chloride preparations have produced esophageal ulceration in certain cardiac patients with esophageal compression due to an enlarged left atrium.

**WARNINGS**

**Hyperkalemia** (See OVERDOSAGE).

In patients with impaired mechanisms for excreting potassium, the administration of potassium salts can produce hyperkalemia and cardiac arrest. This occurs most commonly in patients given potassium by the intravenous route but may also occur in patients given potassium orally. Potentially fatal hyperkalemia can develop rapidly and be asymptomatic.

The use of potassium salts in patients with chronic renal disease, or any other condition which impairs potassium excretion, requires particularly careful monitoring of the serum potassium concentration and appropriate dosage adjustment.

**Interaction With Potassium-Sparing Diuretics**

Hypokalemia should not be treated by the concomitant administration of potassium salts and a potassium-sparing diuretic (e.g., spironolactone or triamterene), since the simultaneous administration of these agents can produce severe hyperkalemia.

**Gastrointestinal Lesions**

Potassium chloride tablets have produced stenotic and/or ulcerative lesions of the small bowel and deaths. These lesions are caused by a high localized concentration of potassium ion in the region of a rapidly dissolving tablet, which injures the bowel wall and thereby produces obstruction, hemorrhage, or perforation. Slow-K is a wax-matrix tablet formulated to provide a controlled rate of release of potassium chloride and thus to minimize the possibility of a high local concentration of potassium ion near the bowel wall. While the reported frequency of small-bowel lesions is much less with wax-matrix tablets (less than one per 100,000 patient-years) than with enteric-coated potassium chloride tablets (40-50 per 100,000 patient-years) cases associated with wax-matrix tablets have been reported both in foreign countries and in the United States. In addition, perhaps because the wax-matrix preparations are not enteric-coated and release potassium in the stomach, there have been reports of upper gastrointestinal bleeding associated with these products. The total number of gastrointestinal lesions remains approximately one per 100,000 patient-years. Slow-K should be discontinued immediately and the possibility of bowel obstruction or perforation considered if severe vomiting, abdominal pain, distention, or gastrointestinal bleeding occurs.

**Metabolic Acidosis**

Hypokalemia in patients with metabolic acidosis should be treated with an alkalinizing potassium salt such as potassium bicarbonate, potassium citrate, or potassium acetate

**PRECAUTIONS**

**General:**

The diagnosis of potassium depletion is ordinarily made by demonstrating hypokalemia in a patient with a clinical history suggesting some cause for potassium depletion. In interpreting the serum potassium level, the physician should bear in mind that acute alkalosis *per se* can produce hypokalemia in the absence of a deficit in total body potassium, while acute acidosis *per se* can increase the serum potassium concentration into the normal range even in the presence of a reduced total body potassium.

**Information for Patients**

Physicians should consider reminding the patient of the following:

To take each dose without crushing, chewing, or sucking the tablets.

To take this medicine only as directed. This is especially important if the patient is also taking both diuretics and digitalis preparations.

To check with the physician if there is trouble swallowing tablets or if the tablets seem to stick in the throat.

To check with the doctor at once if tarry stools or other evidence of gastrointestinal bleeding is noticed

**Laboratory Tests**

Regular serum potassium determinations are recommended. In addition, during the treatment of potassium depletion, careful attention should be paid to acid-base balance, other serum electrolyte levels, the electrocardiogram, and the clinical status of the patient, particularly in the presence of cardiac disease, renal disease, or acidosis

**Drug Interactions**

Potassium-sparing diuretics: see WARNINGS

**Carcinogenesis, Mutagenesis, Impairment of Fertility**

Long-term carcinogenicity studies in animals have not been performed.

**Pregnancy Category C**

Animal reproduction studies have not been conducted with Slow-K It is also not known whether Slow-K can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity Slow-K should be given to a pregnant woman only if clearly needed.

**Nursing Mothers**

The normal potassium ion content of human milk is about 13 mEq/L. It is not known if Slow-K has an effect on this content Caution should be exercised when Slow-K is administered to a nursing woman.

**Pediatric Use**

Safety and effectiveness in children have not been established.

**ADVERSE REACTIONS**

One of the most severe adverse effects is hyperkalemia (see CONTRAINDICATIONS, WARNINGS, and OVERDOSAGE). There also have been reports of upper and lower gastrointestinal conditions including obstruction, bleeding, ulceration, and perforation (see CONTRAINDICATIONS and WARNINGS); other factors known to be associated with such conditions were present in many of these patients.

The most common adverse reactions to oral potassium salts are nausea, vomiting, abdominal discomfort, and diarrhea These symptoms are due to irritation of the gastrointestinal tract and are best managed by taking the dose with meals or reducing the dose.

Skin rash has been reported rarely

**OVERDOSAGE**

The administration of oral potassium salts to persons with normal excretory mechanisms for potassium rarely causes serious hyperkalemia. However, if excretory mechanisms are impaired or if potassium is administered too rapidly intravenously, potentially fatal hyperkalemia can result (see CONTRAINDICATIONS and WARNINGS). It is important to recognize that hyperkalemia is usually asymptomatic and may be manifested only by an increased serum potassium concentration (6.5-8 0 mEq/L) and characteristic electrocardiographic changes (peaking of T waves, loss of P wave, depression of S-T segment, and prolongation of the Q-T interval). Late manifestations include muscle paralysis and cardiovascular collapse from cardiac arrest (9-12 mEq/L).

Treatment measures for hyperkalemia include the following: (1) elimination of foods and medications containing potassium and of potassium-sparing diuretics; (2) intravenous administration of 300-500 ml/hr of 10% dextrose solution containing 10-20 units of insulin per 1,000 ml; (3) correction of acidosis, if present, with intravenous sodium bicarbonate; (4) use of exchange resins, hemodialysis, or peritoneal dialysis.

In treating hyperkalemia in patients who have been stabilized on digitalis, too rapid a lowering of the serum potassium concentration can produce digitalis toxicity

**DOSAGE AND ADMINISTRATION**

The usual dietary intake of potassium by the average adult is 40-80 mEq per day. Potassium depletion sufficient to cause hypokalemia usually requires the loss of 200 or more mEq of potassium from the total body store. Dosage must be adjusted to the individual needs of each patient but is typically in the range of 20 mEq per day for the prevention of hypokalemia to 40-100 mEq or more per day for the treatment of potassium depletion. Large numbers of tablets should be given in divided doses.

**Note:** Slow-K slow-release tablets must be swallowed whole and never crushed, chewed, or sucked

**HOW SUPPLIED**

*Tablets*—600 mg of potassium chloride (equivalent to 8 mEq) round, buff colored, sugar-coated (imprinted Slow-K)

| | |
|---|---|
| Bottles of 100 | NDC 0083-0165-30 |
| Bottles of 1000 | NDC 0083-0165-40 |
| Consumer Pack—One Unit<br>12 Bottles—100 tablets each | NDC 0083-0165-65 |
| Accu-Pak® Unit Dose (Blister pack)<br>Box of 100 (strips of 10) | NDC 0083-0165-32 |

Do not store above 86°F (30°C). Protect from moisture. Protect from light.

*Dispense in tight, light-resistant container (USP).*

**Dist. by:**
**CIBA Pharmaceutical Company**
**Division of CIBA-GEIGY Corporation**
**Summit, New Jersey 07901**

C87-31 (Rev. 8/87)

C I B A

128-3568-A

be militant and interested in their futures and to control their own destinies and not be controlled by outside forces or corporate forces or administrative forces or people who tell them: "You just be a doctor, and we'll take care of everything else." If that happens they're working for a salary, with no input or say. They're not independent, and they've lost that good feeling of being in charge of their own destinies.

**REECE:** *I agree with you. I think it's essential that doctors know they are in control of their own affairs. One thing that seems to be missing in all of this debate is this: Doctors are perfectly capable of being in control of their destiny and being responsible at the same time. I sense "out there" this lack of trust in doctors' ability to govern and control themselves. That disturbs me.*

**OWENS:** That disturbs me, too. It's traditionally been said that doctors don't know business. That's not true. Obviously, doctors have some of the very brightest minds in the country. If their attention and their efforts are directed toward a certain venture, they are usually successful in it. Witness the Mayo Clinic, other fine clinics, and our own clinic—all set up by physicians. The young graduate is led to believe that the business of being a doctor is so complex and so mind-boggling that he cannot possibly deal with it. It requires several banks, lawyers, CPAs, computer hardware and software, and 17 layers of administration to practice medicine.

**REECE:** *You don't believe that, and neither do I. Doctors are perfectly capable of running a lean and mean organization that delivers the desired results.*

**OWENS:** They can, and it has come to a point where you will see more and more doctors making career changes in their 40s and early 50s. Some will become administrators to allow their clinics to compete; a doctor with a busy practice just cannot have the time to do justice to all that.

**REECE:** *One of the reasons I'm conducting this interview with you, Dr.Owens, is that I'm trying to achieve a geographic balance in our coverage of medical issues. The journal ought to reflect the temper of the times in the outstate area as well as the problems and opportunities in those regions of the state. By allowing me to conduct this interview, you're giving the readers your sense of what's happening on the Iron Range.*

**In the 1950s you would work very hard, but you would not be burdened by the constant reference to economics and the bottom line.**

**OWENS:** One of the big things you haven't mentioned is the networking, or regionalization, or whatever the key marketing phrase is, of clinics into larger regional clinic groups. Large clinics in Grand Forks and Fargo have absorbed many satellite clinics of good-sized towns into their systems. This regionalizing is being watched nationwide as a development that may signify what's to come. And Hibbing is now being supported by larger organizations, also.

**REECE:** *We're talking about two different things here, aren't we? You're talking about regional consolidation as in Fargo. In Hibbing, it's a little different; you're being supported by a larger organization and becoming part of their network but without being assimilated. So yours is an independent course with support.*

**OWENS:** That's what you could call it, yes.

**REECE:** *Are you happy with those developments?*

**OWENS:** Some of them are inevitable. A family physician who would try to practice solo at this time and be on call 24 hours a day would have a nigh impossible time. I would have to admire this individual. We do not think this is the wave of the future, as recent developments bear out.

**REECE:** *But some of these changes we ought to embrace. Not all of the changes are bad.*

**OWENS:** No, we have to have the ultrasound, we have to have the CT scanner, and we have to have an extensive business office. We have to have managers, CPAs, lawyers; things are becoming increasingly complex, as you well know. But these things obviously enable us to do a better job for our patients.

**REECE:** *In conclusion, how is being a doctor today different than it was 30 years ago?*

**OWENS:** In the 1950s you would work very hard, but you would not be burdened by the constant reference to economics and the bottom line, to the changing of large segments of the practice, and to corporate intrusions. These changes have been discouraging.

Before, you would often work late into the night, but you'd have a good feeling that you had been of service and that you'd accomplished something. You felt good even when you were tired. Now, when some of the young doctors are very tired, they feel foolish. Why did they do that? Was it worthwhile? Were they foolhardy to work so hard?

**REECE:** *Is it worth it to be tired these days?*

**OWENS:** In the past, you had more respect. Now, many doctors feel patients treat them as something they're entitled to. Doctors often don't get that sense of satisfaction that they are appreciated. But, yes, I definitely think it's worth it. We should all band together and work hard to ensure that it is always so. ■

# LETTERS TO THE EDITOR

## More than Biology

Congratulations on your March issue, "Caring for Minnesota's Children." The articles and statistics confirmed a great deal of what we have been teaching our Rural Physician Associate Program students since 1971. We have put particular emphasis on the psychological-social-sexual areas of caring. At times we have received a great deal of resistance from helping professionals in this regard because such training was "not relevant to medical practice." In our medical schools throughout the country, I believe 95 percent or more of our curriculum is composed of biological material. There is very little emphasis to our third- and fourth-year students on the psychological-social-sexual aspects of caring for people with biological diseases. Our medical students receive a great deal of statistical, objective, biological, and scientific knowledge but little insight into the areas identified in your March 1988 journal.

I hope in the near future you will carefully study our unique course on medical interviewing for understanding and persuasion. Our interview booklet includes over 75 lessons on medical interviewing. We particularly emphasize the gathering of psychosocial information over biological information gathering, which is heavily stressed in the traditional medical/surgical interview. By using audiovisual tapes, our students are able to see themselves as patients see them. Through the tapes, they develop insight into their own style, habits, idiosyncrasies, and techniques. This allows them to see what helps or hinders them in obtaining appropriate information to help people in therapy and healing. Most of what's noted in your March issue would not have been obtained through the traditional medical education structure we have throughout our medical schools.

*John E. Verby, M.D.*
*Professor, Department of Family Practice and Community Health*
*Director, Rural Physician Associate Program*
*University of Minnesota*
*Minneapolis, MN*

## Return to the Old

I appreciate *Minnesota Medicine's* new editorial format. However, I miss the nature photography on the cover of your journal. I found the seasonal photographs by Minnesota physicians much more distinctive than the graphic artwork featured on the cover so far in 1988.

Please return the photographs to the covers!

*J. H. Kandiko, M.D.*
*Crossroads Medical Centers, P.A.*
*Chaska, MN*

## Correction

I would like to correct an error in an article published in the April 1988 *Minnesota Medicine*, entitled, "How Hospital Practice is Changing for the Family Physician," of which I was a co-author.

Under the "Methods" section, I incorrectly identified GT as a medical records technician. I have since discovered that she is an RN with an interest in medical records. The sentence beginning the second paragraph under "Methods" should thus read, "Each chart was abstracted by GT, R.N., or one of two physicians." "Medical Records Technician" should be deleted.

*Charles E. McCoy, M.D.*
*Department of Family Practice*
*Park Nicollet Medical Center*
*Minneapolis, MN*

**ONCE A MONTH BECOME A DIFFERENT PHYSICIAN.**

There are methods, disciplines and equipment you've probably long wanted to use. Serving one weekend a month with your local Army Reserve unit may provide such opportunities.

It's worth looking into. Just call our officer counselor.

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(612) 854-7702
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**ARMY RESERVE. BE ALL YOU CAN BE.**

# Doctors Helping Smokers

## A New Way to Intervene

*Leif I. Solberg, M.D., and Thomas E. Kottke, M.D.*

Physicians don't need the stimulus of the recent 20th Surgeon General's Report on tobacco use[1] to realize that "smoking is the chief, single, avoidable cause of death in our society."[2] For example, when Sobal et al. surveyed 1,040 primary care physicians about the importance of 25 different health-promoting behaviors, eliminating cigarette smoking overwhelmingly topped the list.[3] Ninety-four percent of these physicians thought cessation was "very important" for promoting the health of the average person, and the other 6 percent thought it was "important." Just 82 percent agreed that the next highest item on the list, using protective equipment/clothing around harmful substances, was "very important."

However, although smokers report that advice from their physician would be by far the strongest motivating factor for them to quit,[4] only 40 to 50 percent of them recall ever having been told to quit by a physician.[5,6] And only 4 percent of physicians surveyed by Rosen et al. reported feeling very effective in dealing with smoking.[7]

Many studies have shown that even brief physician advice can be effective in helping people to quit smoking.[8-11] So why the contradiction between what could be and what is happening in medical offices? We believe a number of problems inherent in the traditional physician approach to smoking cessation doom us to ineffectiveness and frustration:

►We're unaware of most tobacco users.

►The ones we're most aware of are those most resistant to change.

►We lack reminders to raise the topic of tobacco use during routine visits.

►We lack a way to easily recall and build on previous discussions with each patient.

►Our approach has tended to be confrontational, relying heavily on scare tactics and guilt.

►We've had few specific ways to provide help to those tobacco users who want it.

►We've had no way to provide reinforcement and follow-up after quit attempts.

►Feedback to us about our efforts has been minimal and primarily has been evidence of our failures.

Kottke's meta-analysis of controlled smoking cessation trials confirms the need to address many of these issues if we are to achieve greater effectiveness.[12] That study, along with our own experience,[13] demonstrates the need to emphasize reinforcement of quit attempts by offering various types of support on multiple occasions. In terms of doctor-patient relationships, effective intervention means giving consistent, supportive messages and providing specific assistance at every possible opportunity.

How can this be done? How can we change the management of smoking cessation from erratic, episodic confrontations to one of coordinated, consistent support? Although there are many barriers to such a change,[14] we believe that one of the largest is the absence of an office system that supports and extends the physician's critical role in this effort.[15] Such a system would clearly need to be both cost-effective and time-efficient, without disrupting busy office schedules or requiring a lot of physician time.

In the course of our National Cancer Institute research grant (RO1-CA-38361, T. Kottke - P.I.), our Doctors Helping Smokers team has discovered a possible solution to this dilemma. After working with primary care physicians interested in improving their smoking cessation efforts, we developed and modified a systematic approach at a test practice site, Nokomis Clinic,* in south Minneapolis. This program, offered as a normal part of care since December 1984, has produced a a fivefold increase in self-reported quit rates among the clinic patients.

The key elements in that program have been:

►Routine screening and chart labeling of smoking status by medical assistants on all patients during normal visits.

►Routine use of brief flow sheets (Smoke Cards) on all tobacco users, with storage outside the record system and attachment to the chart during each visit.

►A brief (one to three minute) supportive physician role that emphasizes specific planning for anyone interested in quitting.

►Provision of self-help materials.

►Availability of individualized cessation counseling from an office nurse on a fee-for-service basis.

►Brief follow-up telephone support after quit dates.

►Evaluation and feedback to staff and physicians.

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*A faculty practice site of the Department of Family Practice and Community Health, University of Minnesota Medical School.

►Maintenance of smoke-free clinic status.

Establishing and maintaining such a system requires planning, coordination, and strong physician support. The system provides an opportunity for virtually all office staff to contribute to the effort and to feel pride in its accomplishments.

The ideas and results of this approach have been so appealing that it has led to many invitations to present the information and to provide consultations nationally. Because we shared a concern with some skeptics that such a program might not be implemented in other practices, the Doctors Helping Smokers team has undertaken a challenging task in the past year. It collaborated with HMO-Minnesota to test the acceptability and feasibility of instituting similar systems in arbitrarily selected primary care practices affiliated with HMO-Minnesota. The goal was to establish systematic tobacco-cessation systems for all patients at each clinic, even though only a small proportion of patients were members of HMO-Minnesota. The joint effort provided consultative help and a small reimbursement for HMO-Minnesota patients who sought counseling. No other incentives or rewards were involved for the clinics, and each was free to do anything or nothing in response to the offer. Ten clinics have established a nearly identical system to that developed at Nokomis, although there is some variation in the completeness of its application.†

As the public and physicians become more committed to smoking cessation, a feasible approach is needed. Physicians need an acceptable way to implement the smoking cessation recommendations of the National Institutes of Health, the U.S. Preventive Services Task Force, and other medical organizations.[16,17] We believe that variations on this theme of systematic intervention offer such an acceptable and effective approach.

## Acknowledgment

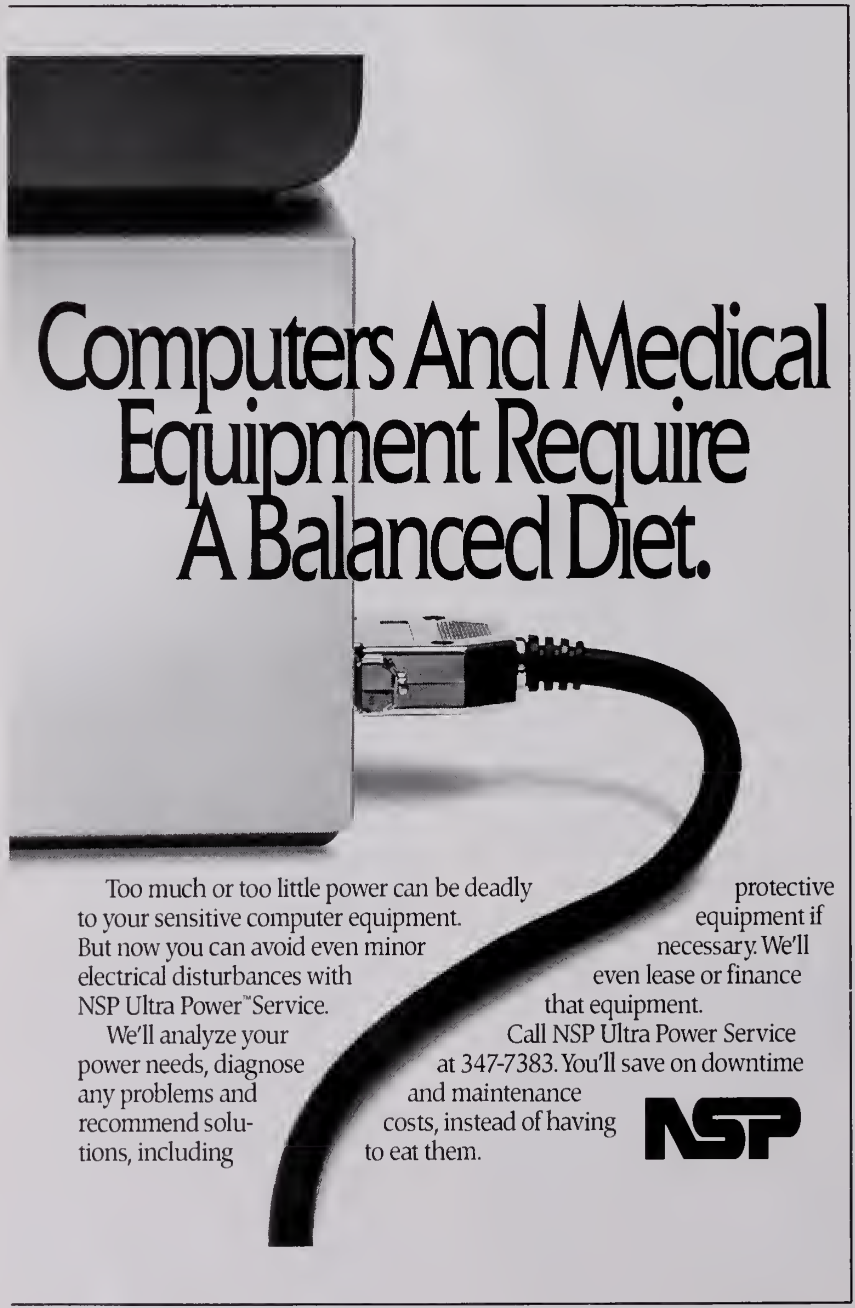
This work was supported by NIH grant CA38361 from the National Cancer Institute.

*Leif Solberg is an associate professor in the Department of Family Practice and Community Health, University of Minnesota Medical School.*

*Thomas Kottke is a senior associate consultant in Mayo Clinic's Cardiovascular Division, Department of Medicine.*

*Reprints: Dr. Solberg, Department of Family Practice and Community Health, Medical School, University of Minnesota, Box 381 UMHC, 516 Delaware Street SE, Minneapolis, MN 55455.*

**Smoking References** *to page 441*



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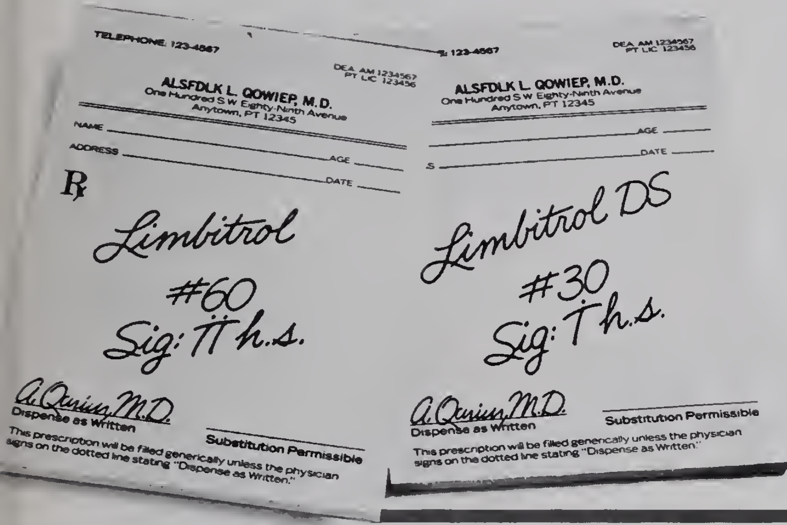
†Chisago Lakes Medical Center, Clearwater Medical Clinic, Doctors Clinic, Ltd. (Forest Lake), Hastings Family Practice Clinic, Mora Medical Center, Professional Medical Associates, Ltd. (Cambridge), Quality Health Services (Buffalo), River Valley Clinic (Hastings), St. Croix Valley Clinic, Stillwater Clinic.

# In moderate depression and anxiety

- 74% of patients experienced improved sleep after the first *h.s.* dose[1]
- First-week improvement in somatic symptoms[1]
- 50% greater improvement with Limbitrol in the first week than with amitriptyline alone[2]



TELEPHONE: 123-4567

DEA AM 1234567
PT LIC 123456

ALSFDLK L. QOWIEP, M.D.
One Hundred S W Eighty-Ninth Avenue
Anytown, PT 12345

NAME

ADDRESS ______ AGE ______

______ DATE ______

℞

Limbitrol

#60

Sig: īī h.s.

A. Quium, M.D.
Dispense as Written

Substitution Permissible

This prescription will be filled generically unless the physician signs on the dotted line stating "Dispense as Written."

123-4567

DEA AM 1234567
PT LIC 123456

ALSFDLK L. QOWIEP, M.D.
One Hundred S W Eighty-Ninth Avenue
Anytown, PT 12345

______ AGE ______

S ______ DATE ______

Limbitrol DS

#30

Sig: ī h.s.

A. Quium, M.D.
Dispense as Written

Substitution Permissible

This prescription will be filled generically unless the physician signs on the dotted line stating "Dispense as Written."

## Protect Your Prescribing Decision: Specify "Do not substitute."

## Limbitrol®

Each tablet contains 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt) ⒸIV

## Limbitrol® DS

Each tablet contains 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) ⒸIV

**References:** 1. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Feighner VP, *et al: Psychopharmacology 61*:217-225, Mar 22, 1979.

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**Limbitrol® ⒸIV**
**Tranquilizer—Antidepressant**
**Before prescribing, please consult complete product information, a summary of which follows:**

**Contraindications:** Known hypersensitivity to benzodiazepines or tricyclic antidepressants; concomitant use with MAOIs or within 14 days of monoamine oxidase inhibitors (then initiate cautiously, gradually increasing dosage until optimal response is achieved); during acute recovery phase following myocardial infarction.

**Warnings:** Use with caution in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur when used with anticholinergics. Closely supervise cardiovascular patients. Arrhythmias, sinus tachycardia, prolongation of conduction time, myocardial infarction and stroke reported with tricyclic antidepressants, especially in high doses. Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving).

*Usage in Pregnancy:* **Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations. Consider possibility of pregnancy when instituting therapy.**

Withdrawal symptoms of the barbiturate type have occurred after discontinuation of benzodiazepines (see Drug Abuse and Dependence).

**Precautions**: Use cautiously in patients with a history of seizures, in hyperthyroid patients, those on thyroid medication, patients with impaired renal or hepatic function. Because of suicidal ideation in depressed patients, do not permit easy access to large quantities of drug. Periodic liver function tests and blood counts recommended during prolonged treatment. Amitriptyline may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady-state concentrations of the tricyclic drugs. Use of Limbitrol with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Should not be taken during the nursing period or by children under 12. In elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects. Inform patients to consult physician before increasing dose or abruptly discontinuing this drug.

**Adverse Reactions:** Most frequent: drowsiness, dry mouth, constipation, blurred vision, dizziness, bloating. Less frequent: vivid dreams, impotence, tremor, confusion, nasal congestion. Rare: granulocytopenia, jaundice, hepatic dysfunction. Others: many symptoms associated with depression including anorexia, fatigue, weakness, restlessness, lethargy.

Adverse reactions not reported with Limbitrol but reported with one or both components or closely related drugs: *Cardiovascular:* Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke. *Psychiatric:* Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania, increased or decreased libido. *Neurologic:* Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns. *Anticholinergic:* Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract. *Allergic:* Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus. *Hematologic:* Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia. *Gastrointestinal:* Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue. *Endocrine:* Testicular swelling, gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion. *Other:* Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

**Drug Abuse and Dependence:** Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlordiazepoxide; more severe seen after excessive doses over extended periods; milder after taking continuously at therapeutic levels for several months. Withdrawal symptoms also reported with abrupt amitriptyline discontinuation. Therefore, after extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and dependence.

**Overdosage**: Immediately hospitalize patient. Treat symptomatically and supportively. I.V. administration of 1 to 3 mg physostigmine salicylate may reverse symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

**How Supplied:** *Double strength (DS) Tablets,* white, film-coated, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt), and *Tablets*, blue, film-coated, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 50.

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ROCHE PRODUCTS INC.
Manati, Puerto Rico 00701

P.I. 0288

In the depressed and anxious patient

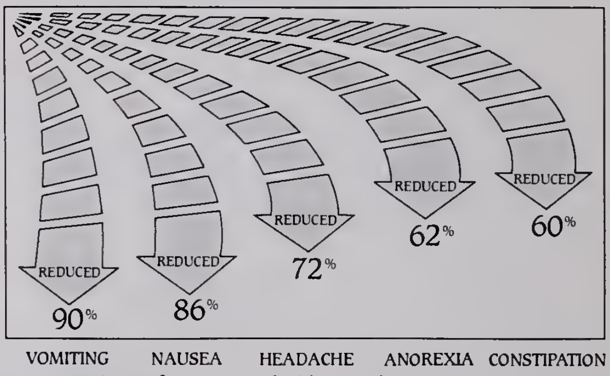
# See Improvement In The First Week[1]...

## And The Weeks That Follow

- 74% of patients experienced improved sleep after the first *h.s.* dose[1]
- First-week reduction in somatic symptoms[1]

Caution patients about the combined effects of Limbitrol with alcohol or other CNS depressants and about activities requiring complete mental alertness, such as operating machinery or driving a car. In general, limit dosage to the lowest effective amount in elderly patients.

Percentage of Reduction in Individual Somatic Symptoms During First Week of Limbitrol Therapy*



*Patients often presented with more than one somatic symptom.

**Limbitrol®**

Each tablet contains 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt) Ⓒ IV

**Limbitrol® DS**

Each tablet contains 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) Ⓒ IV

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Please see summary of product information inside back cover.

# The MD's Role in Curbing Tobacco Use

The recently imposed ban on smoking on commercial airline flights of less than two hours' duration was accompanied by widespread publicity and has been hailed, appropriately, by foes of smoking as another milestone in the quest for a smoke-free environment by the year 2000.

Efforts to curb smoking in public areas also are receiving much attention, as is the AMA-backed effort to prohibit tobacco advertising.

Physicians can be justifiably proud of the efforts that medicine has undertaken to curb smoking. Smoking, however, continues to be one of the nation's most significant public health problems.

It is thus disturbing to note that there is evidence that not all physicians are making a concentrated effort on behalf of their patients.

Two statewide surveys done in Michigan and reported last year indicated that only 44 percent of smokers said they had been advised by a physician to quit. More than half of smoking patients who had had ten or more contacts with a physician had been advised to quit. Young adults were the least likely to receive counseling, even though their addiction to nicotine might be less well entrenched.

In view of widespread data indicating that physician counseling can play an effective role in helping patients stop smoking, it behooves all MDs to ask whether they are doing all they can to help their patients who smoke to quit.

To help physicians do a better job of this, the AMA's Council on Scientific Affairs has developed a set of guidelines that merit careful consideration. They call on physicians to:

► Quit smoking and urge their colleagues to quit.

► Inquire of all patients at every visit about their smoking habits (and their use of smokeless tobacco).

► At every visit of patients who smoke, counsel them to quit.

► Provide smoking cessation pamphlets in the waiting room.

► Become aware of local smoking cessation programs, and of their techniques and success rates; where possible, refer patients to them.

► Participate in educational programs to help physicians help patients stop smoking.

► Speak to community groups about tobacco use and its consequences.

While many physicians express dismay and frustration with their inability to convince smokers to quit, the value of such activity is significant. Given the millions of smokers, even reductions of a few percentage points in the smoking population will produce significant reductions in the toll from tobacco-related diseases.

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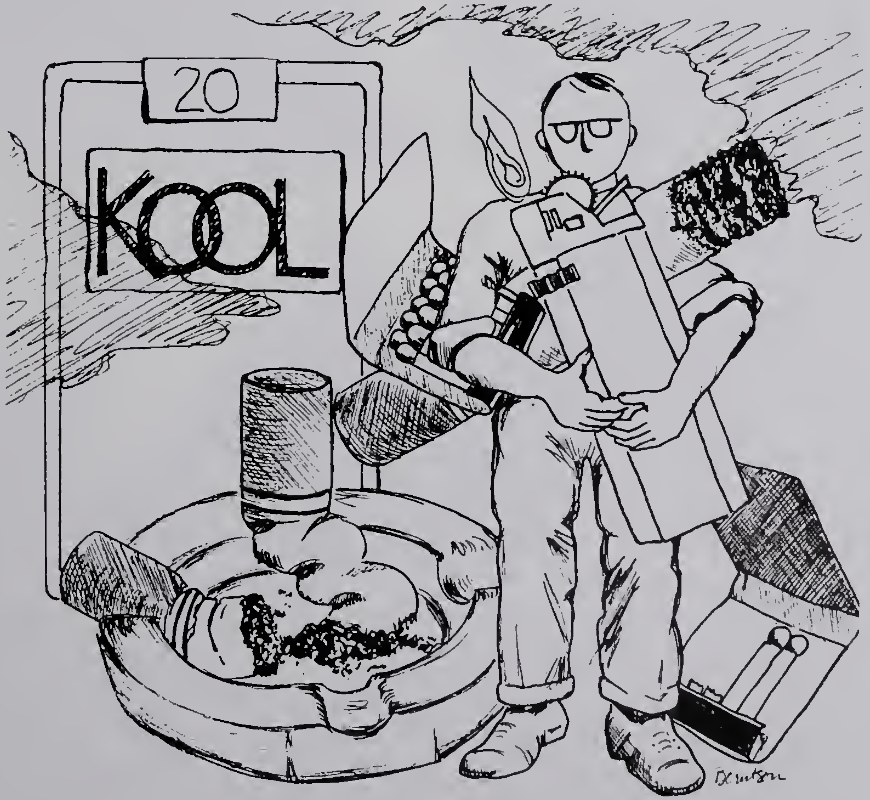
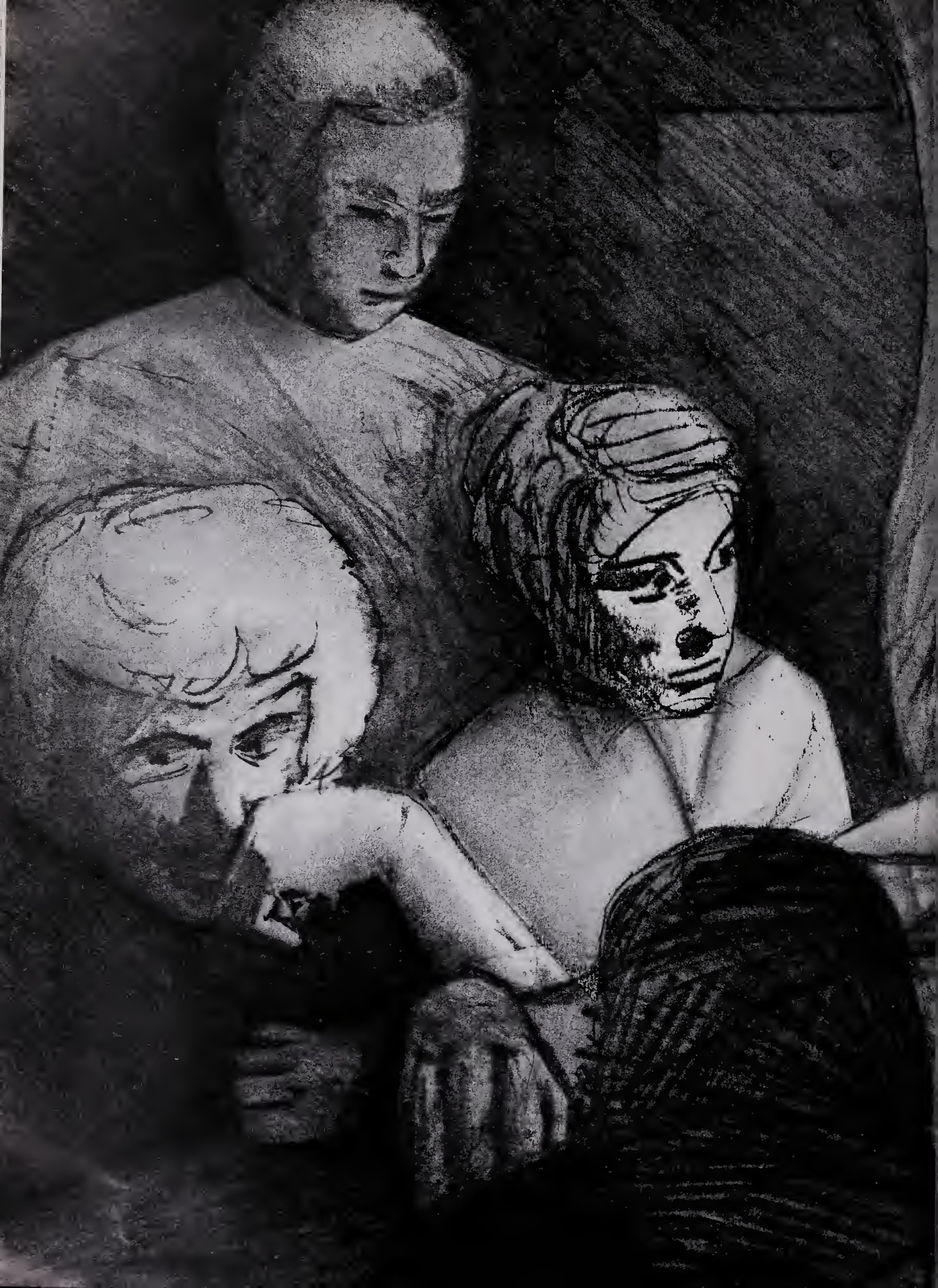
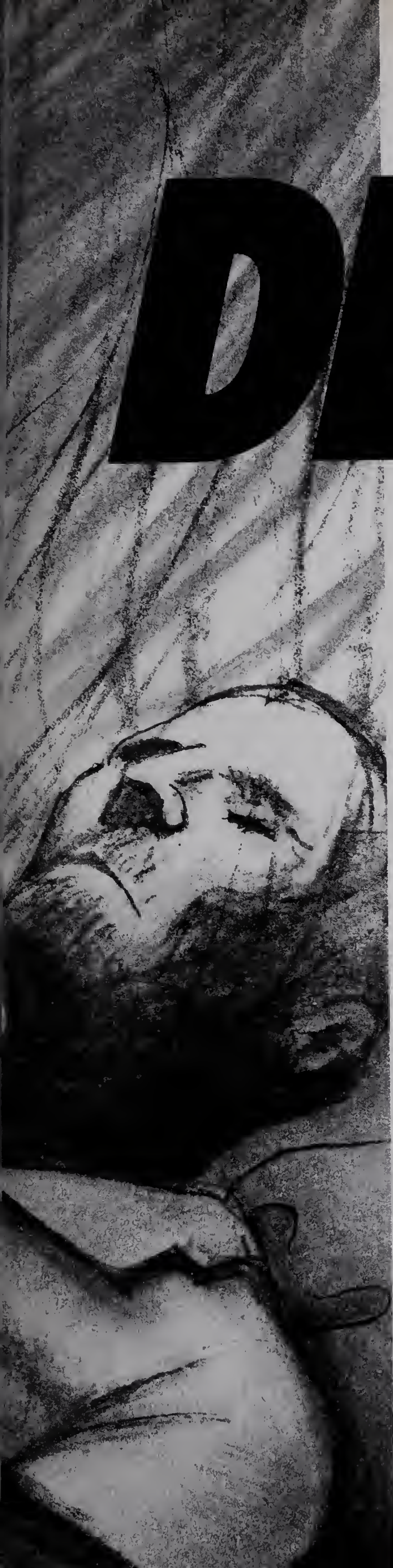


*Illustration by Kathleen Berntson*





# Making Peace with DEATH

## Physicians Help Heal the Pain of Loss

**Sara Saetre**

It comes bump up against the Hippocratic oath. Physicians are sworn to keep it at bay, to fight it at all costs. Yet death—no respecter of oaths—still stalks the earth to reap its grim harvest, claiming more than two million persons in the United States each year.

Of course, we've made significant strides against our ancient enemy. Modern medical "miracles" make it harder than ever for death to do its job. We've nearly beaten scarlet fever, diphtheria, pneumonia, and other killers of the young. Now our aged die instead. Two-thirds of those who will die this year will be 65 years old or older. That's in stark contrast to the turn-of-the-century, when most deaths were "contributed" by children; today only six percent of deaths are among children under 15.

But whether the dying are old, young, or anywhere in between, it is largely physicians who must preside over their deaths. And since the aged in our society don't usu-

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*Sara Saetre is a freelance writer living in the Twin Cities.*

ally live with their children, those who die most often, most often need somewhere to do it. In an age of specialization, we've created special places for death to take place; we call them hospitals.

While modern medicine has brought a generation of elderly Americans to the end of their lives, then ushered them into a new environment for dying, it has also altered, to some extent, the time of death. Life-sustaining technologies can put off death, sometimes indefinitely. We've had to redefine death accordingly, so that even while the heart is beating, a person may be dead if he or she is past knowing or caring. In a sense, physicians and families "cause" death—by defining it, and declaring it.

Thus, Physicians can find themselves, at times, in an untenable relationship with death. On the one hand is a mandate by tradition and training as healers to defy death. On the other hand is the inevitable. As Shakespeare put it, "We still owe God a death."

"Our biology says we're born to die," says Robert Fulton, a well-known scholar in the area of grief and bereavement. "Yet technology and training seek to deny that. For the physician, that can pose a tremendous burden of guilt—the burden is terrible. The caregiver is in an impossible role."

Fulton describes not only the impact of death on physicians, nurses, and other caregivers, but also on their dying patients, and on the families of those patients. As physicians come to terms with their own ambivalences, says Fulton, they are better equipped to help patients to die, and to help the bereaved to survive. Sensitivity to patterns of grieving can make all the difference, according to Fulton.

When Fulton's wife died of breast cancer ten years ago, he knew that she had received all possible medical support. Her oncologist, Seymour Levitt (of the University of Minnesota Hospital and Clinic), began a remarkable, intimate relationship with the Fulton family during the years of her dying. He attended her funeral. Earlier, immediately after her death, he had taken Robert Fulton and Fulton's sons out to a restaurant for dinner.

"He didn't need to run and hide—there was no sense of failure," said Fulton. "We all understood that everything possible had been done." In such a climate, physician and family could share an evening charged with emotion for all of them—healer and survivors. Given that rare opportunity to talk, to remember, the work of grieving—for survivors and healer—could begin, says Fulton. Today Levitt continues in a significant role for one of Fulton's sons, who was so impressed with Levitt that he will enter medical school at the University this fall to become an oncologist like his mentor.

But our culture has made it difficult for such openness to exist. Physicians and families obviously can't always be intimate. Yet an acceptance of death at some point within the parameters of the normal physician-patient relationship can be critical for both.

In a 1972 article in *Modern Medicine*, Fulton reported on the state of death and dying in America. Citing the work of the University's Center for Death Education and Research, he wrote that the center had found many difficulties in the relations between the health care professions and the dying. "There is a glaring lack of information and of basic social and professional skills in this all-too-sensitive area," he wrote. "For the most part, medical practitioners . . . know appallingly little about grief and bereavement."

Fulton goes on to upbraid health professionals for a practice then current: the verbal "stripping" of patients. For example, comatose patients were described as "vegetables"; dying patients as "going bad." Such language robbed patients of their humanity, argued Fulton. And it was just one example of the ways in which society—and health care professionals in particular—denied death.

Another startling example was the report by one hospital that it smuggled the bodies of patients who had died out of their rooms in a laundry cart. In other hospitals, staff would cordon off the hallways and elevators when a dead patient's body was to be removed. The message was: People don't die in our hospital.

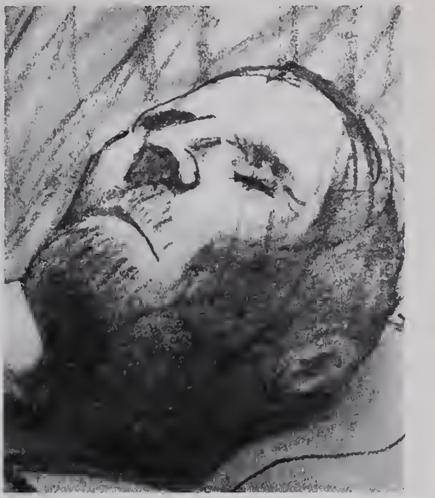
Such practices were part of a cultural milieu, wrote Fulton, that made death even harder than it would need to be. Physicians felt the taboo and sometimes didn't openly discuss a patient's prognosis with patient and family. Nurses were left to field a patient's probing queries, ill equipped for this sensitive task and caught uncomfortably in the middle.

"One of the major problems . . . that all of us face when we lose someone we love through death, is the hostility of our society toward that fact," wrote Fulton. "Medical and health care personnel, we are discovering, are often among the worst offenders."

Sixteen years later, some things have changed in hospitals, in the medical profession, and in our culture. Still, we struggle with a taboo against something we cannot, finally, avoid.

**In an age of specialization, we've created special places for death to take place; we call them hospitals.**

A physician can provide critical leadership in this situation, believes Barbara Elliott, director of behavioral science and research at the Duluth Family Practice Center in Duluth. Elliott, who received her Ph.D. at the University of Minnesota under the tutelage, in part, of Robert Fulton, shares many of his concerns. She now teaches a course on grief and bereavement to students in the family practice program at the University of Minnesota, Duluth.



Elliott's course is called the "Psychosocial-Spiritual Aspects of Life-Threatening Disease." Its objectives are to introduce scientific information on the subject, to discuss the dying process as it affects a physician's practice, to help students understand how their own experiences will affect their practices, and to help them in confronting their own mortality.

Physicians can and do play a key role both for patients who are dying and for their survivors, says Elliott. "What happens may be a medical event to a physician, but to a family it is a personal crisis. Because of physicians' role in society, they participate in that crisis in a unique way," says Elliott, who strongly urges physicians to honor a protocol appropriate during a death and after. Simply declaring a death is significant. "A physician's words make the loss real," Elliott explains.

She recalls the family of a man in cardiac arrest: His heart had stopped beating several times during the night, and each time the medical team was able to resuscitate him. But as the morning dawned, his heart stopped again, and this time, failed to respond.

"The doctor went to see the family in the waiting room," says Elliott. "He described the events for them. But it was clear that they didn't realize what had happened. So he stopped his explanation of the treatment, and simply said, 'I'm sorry. Harold is dead.' Only then were they able to grasp what had happened."

Simplicity and directness are important, says Elliott, because survivors are typically numb. And after they grasp the fact of death, they may only half remember what is said.

Elliott also encourages physicians to "give permission" to family members to see the body of their loved one, and to stay with it as long as they wish. "Recent research has shown the therapeutic value of this," she says. In one case Elliott describes, a mother whose young child had died very suddenly of an epiglottis infection stayed with the child's body for five hours.

"It seems long," says Elliott. "Yet it was her only chance to say goodbye."

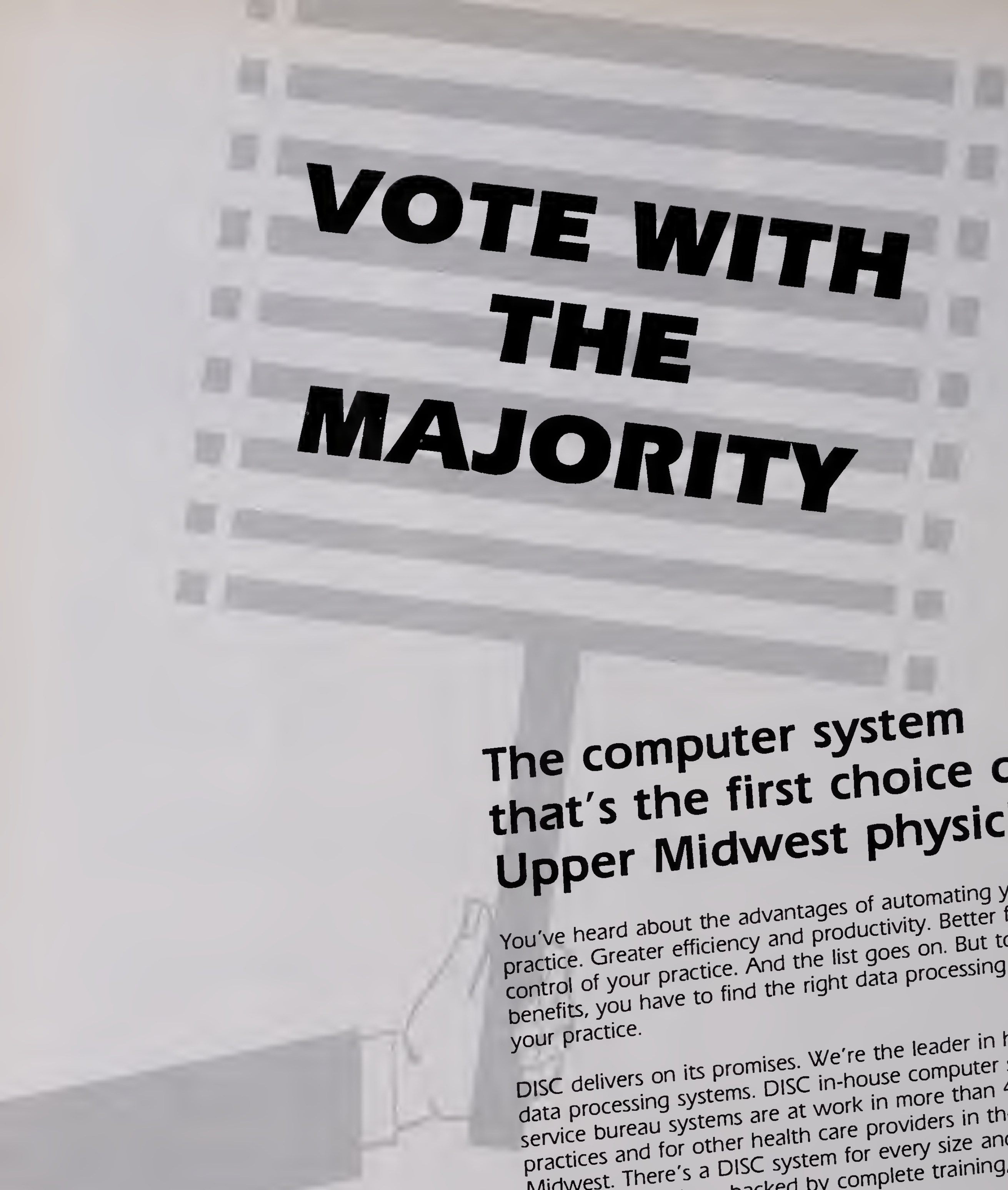
Another step physicians can take to aid in a family's sense of closure is to encourage an autopsy, says Elliott. This common practice can often make the long-term acceptance of a death easier, as it can help to answer some of the troubling questions that may surround a death.

The return of personal possessions to survivors is also a well-accepted practice. But it may be overlooked in the case of a newborn who has died, says Elliott. A hospital bracelet, photograph of the child, footprints, or other mementos can be invaluable later to a family as the sole record of that small life. Yet at the time of death, family members may not think to claim them.

Perhaps the most important part of the protocol Elliott urges is an offer by the physician to see survivors again soon after a death. Grieving is a healing process, she says, and like the healing that takes place following a major surgery, it needs to be monitored. Other professionals, such as clergy, social workers, or counselors can follow this process. And informally, friends and family do this also. But only a physician can explain the medical facts and history that led to the death.

**As physicians come to terms with their own ambivalences, they are better equipped to help patients to die, and to help the bereaved to survive.**

An appointment with the physician from four to six weeks after a death gives survivors a chance to recover from the initial shock, says Elliott. At this time, questions will begin to occur to them. And the autopsy report will be available, which the physician can use to dispel any mystery or lingering doubt. As survivors make the transition from shock into substantial "grief work," and not earlier, they are best able to hear and to understand the answers to their ques-



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tions. "This visit can be extremely therapeutic," says Elliott. "It's the compassionate physician who offers it."

Another purpose of the follow-up visit is to assess a survivor's state of mind. Careful interviewing can uncover problems that might need attention by professionals, according to Monty Williams, a social worker for Minneapolis Children's Medical Center. Williams leads a grief support group for parents who have lost their infants to sudden infant death syndrome (SIDS).

"Physicians want to see that those in their care have begun to come out of shock," he says. The intensity of grief reactions will provide clues to the health of the survivor. For example, sleep disturbances are normal—but a disturbance that is so profound that it is debilitating will need attention. Where survivors are enormously bitter, or angry, or have suicidal thoughts, some counseling is indicated.

Yet not all physicians refer those in their care to appropriate professionals at this point. "Most often we get our calls from clergy, or directly from the person," says Williams. "We rarely get referrals from physicians themselves."

Williams and others in similar positions believe that support groups can be useful to some people in grief. A few may need more intensive, individual counseling.

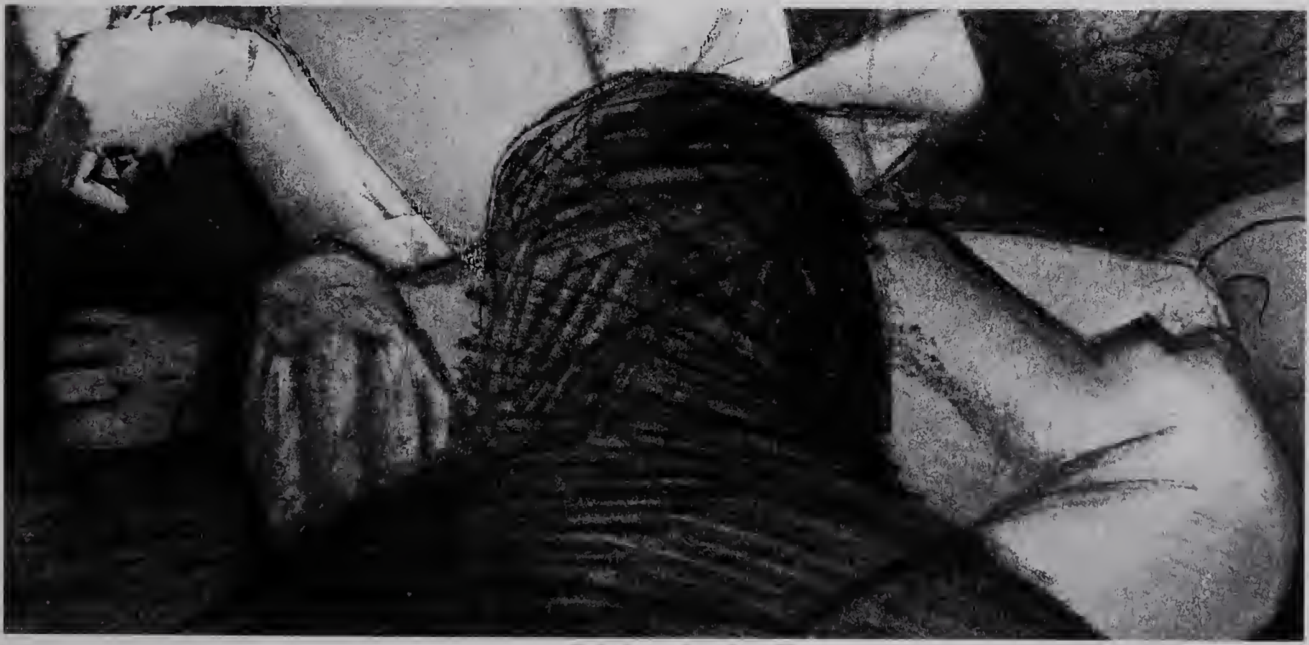
"Grief can cause somatic illnesses. But it's also deadly. Grief can kill you," says Ben Wolfe, director of a unique center at St. Mary's Medical Center in Duluth. His Grief Support Center provides education and counseling to physicians and their patients.

The Grief Support Center is among a plethora of support groups that has sprung up in recent years to meet these needs. But while most programs, like the SIDS group led by Monty Williams, focus on a single type of bereavement, St. Mary's three-year-old Grief Support Center is more comprehensive. It sponsors groups that meet once a month or more for adults, for children, for survivors of suicide, for siblings of chronically ill and disabled children, and others. The center also conducts research and provides educational programs to a variety of organizations. Wolfe travels throughout the country speaking to local and regional health organizations, churches, schools, and other groups. St. Mary's offers the services free. Wolfe believes the center is an effective outreach tool; in addition to providing a needed service, it also acts as a wide-ranging extension of the hospital's presence.

"Many doctors send their clinic staff to our programs," says Wolfe. "The center has been a good investment in wellness, and a good ambassador for the hospital."

While physicians are highly skilled at identifying illnesses stemming from psychosocial problems such as grief, they can't be expected to follow up with the kind of therapy the Grief Support Center can offer. "We're a support service for physicians," says Wolfe. After a period of proving itself, the center is now well established in the region. It receives about 120 phone calls a week, many of these referrals, says Wolfe, who estimates that his staff talked to over 15,000 people last year through phone calls, presentations, and support groups.

While physicians continue their battle against death, programs like the Grief Support Center's affirm that although death is inevitable, the pain it leaves behind can be shared and healed. As we emerge from a repressive era in which death was distasteful—or worse, taboo—we actually free not only physicians, but their patients as well, to face death with dignity. And as we are able to acknowledge "the debt that we owe," we can in a sense clear the books. We can go on—and help others to go on. And that answer to death is, finally, what we mean by life.



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# Medicaid Payment to Physicians

## A National Comparison with Attention to Minnesota

*Steven S. Foldes, Ph.D.*

**How well does the Minnesota Medicaid program reimburse physicians for commonly billed procedures as compared with Medicaid programs in the nation and the six-state region? This question motivated a survey by the Minnesota Department of Human Services conducted in March 1987 of maximum allowable reimbursement rates for Minnesota Medicaid's 74 most frequently performed procedures. The usable results from 35 states demonstrate substantial variation in physician reimbursement, confirming earlier findings. In addition, analysis revealed considerable variations in payment within states for various types of procedures. Minnesota ranks fourth overall among all states responding, and more than a full standard deviation above the mean reimbursement level. Within the six-state region, Minnesota ranks first. Comparatively, Minnesota's maximum allowable reimbursement rates are especially high for visits to the office, hospital, and long-term care facility, and for psychiatric visits and consultations. Lower, but still above the national mean, are rates for emergency room visits, laboratory tests, and immunizations.**

It is well known that state Medicaid programs have considerable discretion in determining physician payment policies. As long as they stay within broad federal guidelines, individual states may determine both the reimbursement system used—such as Customary, Prevailing, and Reasonable; fee schedule; or relative value scale—and the actual level of provider reimbursement. As a result, some critics of Medicaid policies have emphasized, as much variation exists among the states in actual provider payment practices as in the range of benefits and eligibility criteria for recipients. Studies have demonstrated that variations in reimbursement rates have substantial implications for both program costs and access to care. Several have shown that Medicaid reimbursement rates have major effects on physician participation in Medicaid.[1-5]

This study examines one aspect of this issue: It compares reimbursement rates among the state Medicaid programs that responded to a recent survey of maximum physician fees. The study draws on the results of a national survey conducted by the Minnesota Department of Human Services in February and March 1987 of state Medicaid maximum allowable reimbursement levels for 74 frequent procedures. This study, as others before it, identifies the extent of variation between states. This focus makes it possible to view Minnesota's reimbursement rates within a national context. In addition, the study identifies substantial variation in payment rates within individual states, raising policy-related concerns about possible differences in access to care for certain types of services within any given Medicaid program.

### Minnesota's Payment for Medicaid Services

As part of a move to centralize administration of Minnesota's Medicaid program, the state in 1974 assumed central responsibility for the payment of physicians who provide service to Medicaid recipients. At that time, payment was based on the Minnesota Relative Value Index (MRVI), a scale adapted from the California Relative Value Index in 1973 by the Minnesota Medical Association to evaluate the value of specific physician services relative to each other. A threat of antitrust action by the Federal Trade Commission led to the abandonment of the MRVI in 1978 (except for anesthesiology) and to the adoption of the commonly used Customary, Prevailing, and Reasonable (CPR) system.

In this system, physician payment is based on the lower of the provider's own submitted charge, that provider's customary charge, or the Medicaid prevailing charge, which is considered to be the fiftieth percentile of all charges for a given procedure. The provider's customary charge is calculated as the median charge by the provider to the program for any given procedure for which that provider has billed at least ten times during a one-year period. Unlike Medicare, in which payment rates vary by geographic region and the provider's medical specialty, Medicaid in Minnesota reimburses physicians from different specialties or geographic regions according to the same fee schedule.

Clearly, this system is driven by annual increases in physician charges. As individual providers' charges increase over time, their customary charge profiles also rise. Similarly, the community's prevailing charges gradually rise. However, unlike some other states and third-party payers that use the CPR system, Minnesota has not regularly updated its payment. Change in the base year from which calcu-

**TABLE 1**
Office visit CPT codes, frequencies and Minnesota rates

| Procedure Code | Procedure Description | MN Occurrences (1986) | MN Maximum Allowables | MN Occurrences X MN Allowables |
|---|---|---|---|---|
| 90000 | New Pt. Brief Serv. | 6,449 | $21.00 | $135,429.00 |
| 90010 | New Pt. Limited Serv. | 16,860 | $25.00 | $421,500.00 |
| 90015 | New Pt. Inter. Serv. | 16,658 | $30.00 | $499,740.00 |
| 90020 | New Pt. Comp. Serv. | 9,118 | $48.00 | $437,664.00 |
| 90030 | Est. Pt. Minimal Serv. | 12,240 | $10.00 | $122,400.00 |
| 90040 | Est. Pt. Brief Serv. | 147,294 | $15.75 | $2,319,880.50 |
| 90050 | Est. Pt. Limited Serv. | 299,335 | $17.50 | $5,238,362.50 |
| 90060 | Est. Pt. Inter. Serv. | 117,733 | $20.00 | $2,354,660.00 |
| 90070 | Est. Pt. Ext. Serv. | 33,921 | $30.60 | $1,037,982.60 |
| 90080 | Est. Pt. Comp. Serv. | 17,619 | $55.00 | $969,045.00 |
| TOTALS | | 677,227 | | $13,536,663.60 |

lations of customary and prevailing rates are derived is controlled by the state legislature. The legislature has changed the base year only twice since the adoption of the CPR system; the base year was changed to 1979 in 1981, and to 1982 in 1985. A state budget crisis led to a 4% reduction in most of these rates for six months in 1983, and cost-containment efforts produced a 5% reduction in most rates beginning in July 1987. Thus, payment to physicians is currently based on charges stemming from 1982, less 5% for most procedures. During the 1988 legislative session, this 5% reduction was rescinded, effective October 1, 1988, thereby restoring the full 1982 base rate. Also, effective July 1, 1989, the legislature eliminated the "customary" rate restriction for physicians, a change which, in effect, turns the reimbursement system into a fee schedule. General Assistance Medical Care (GAMC), a much smaller locally funded program, has a somewhat different payment history and is excluded from this analysis.

The history of rate changes in the Minnesota Medicaid program has produced a gradually increasing gap between physician charges and rates of reimbursement. Not surprisingly, Minnesota physicians, who are among the most caught-up in the financial pressures of the competitive marketplace for medical services, have become increasingly disappointed by Medicaid payment rates. In an effort to determine how Minnesota's reimbursement rates compare with Medicaid reimbursement across the country, the Minnesota Department of Human Services conducted a national survey of state Medicaid rates for commonly performed procedures.

Whether a state's reimbursement to physicians for services provided to Medicaid recipients should or should not compare favorably with rates paid by private payers is a philosophical issue that properly belongs in the realm of public policy. However, in view of the substantial variation among state Medicaid programs and payment rates, it seems reasonable to ask whether Minnesota's physicians are being paid more or less than physicians in other states when they provide services to Medicaid recipients.

## Methods

In the survey, conducted in February and March of 1987, state Medicaid programs were asked to provide their current maximum allowable reimbursement rates for 74 specific CPT procedures. The 74 procedures selected were those most frequently billed to Minnesota's Medicaid program in 1986. The 74 procedures combined include 1.358 million individual procedures performed by providers for Minnesota Medicaid-eligible people in 1986, totaling $25.830 million in reimbursement at the maximum allowable rates. Sixty-three of these procedures were grouped into seven areas, such as office visits, laboratory tests, and immunizations, to permit analysis at this level of detail. The remaining 11 procedures were not grouped in this way because the clinical areas to which they correspond were judged not to have sufficient numbers of procedures for meaningful analysis.

Space limitations prevent listing all of these procedures, but to help illustrate the methods used, Table 1 identifies the ten office visit codes included in the survey. In Table 1, each CPT code is accompanied by the corresponding frequency of occurrence in 1986 and the maximum allowable rates for Minnesota in March 1987. The final column indicates the calculated total amounts payable at the maximum rate for the number of procedures reported for each procedure code.

To compare states' reimbursement, we determined what amounts would have been paid for the same volume and mix of procedures if they had been reimbursed at the maximum allowable rates prevalent in each state at the time of the survey. Put simply, how much would providers have been paid for Minnesota's "market basket" of procedures if they had been reimbursed using the fees prevalent in the states surveyed?

Thirty-eight states provided their rates in response to the survey. All the states in the six-state Upper Midwest region responded. Unfortunately, three of the nation's ten largest Medicaid programs, New York, Pennsylvania, and Massachusetts, could not be included in the survey. Massachusetts did not respond, and New York and Pennsylvania use coding systems that are not directly comparable to the CPT codes used in this survey. However, several others among the largest programs did respond and are included, among them California, Illinois, Michigan, New Jersey, Ohio, Texas, and Wisconsin. Finally, Arizona's response was deleted because that state operates a unique Medicaid program under a federal waiver that uses prepaid contracts with providers awarded on the basis of competitive bidding. With these three exclusions, the final comparison is between 35 states, including Minnesota.

Because the rates provided by responding states are specific to individual CPT procedures, a direct comparison among the rates is possible. Weighting the compared reimbursement amounts by the volume of procedures performed in Minnesota adjusts the comparison to more closely approximate real payment levels. However, because of minor differences in coding systems or lack of coverage in some states for certain services, several states provided rates for fewer than 74 procedures. In several states, a few procedures have no single maximum reimbursement rate but are paid according to the level of services performed, or "by report." Where this is the case, Minnesota's fixed reimbursement maximum was applied to avoid the implication that these items are not covered. In some instances, however, items that are covered in Minnesota are not covered by other states. In these cases, the maximum reimbursement rate was listed as zero for the purpose of comparison. Full lists of the 74 CPT codes, corresponding frequencies and rates, as well as coverage and rates in each state, are available from the author upon request.

The comparison of these reimbursement rates needs to be qualified in at least two important respects. First, the survey focused on the 74 most frequently billed procedures in Minnesota in 1986. But the most frequent procedures are not necessarily the most expensive, either per procedure or in terms of total cost to the Medicaid program. In fact, a majority of the most frequent procedures are also among the highest in total cost to the program. However, some of the procedures most costly to the program are less frequently performed for Minnesota Medicaid recipients and are excluded from consideration here. One such procedure is CPT 59400 (vaginal delivery global), which ranks third in total cost but is not among the most frequent 74 procedures billed to Minnesota's Medicaid program. Another is CPT 99160 (critical care one hour), which ranks 30th in total cost. The most directly evident effect of focusing on the most frequent procedures is that the list includes a number of common laboratory procedures, many of which are performed very frequently but which are relatively inexpensive per unit of service.

A related consideration is that Minnesota's 74 most frequently billed CPT procedures may not be the most frequently billed procedures in other states. Of course, the composition of medical practice throughout the United States, particularly for the most commonly performed procedures, is likely to be very similar. But there is substantial evidence that physician practice patterns vary by location.[6] Nevertheless, this does not affect the validity of comparing the reimbursement rate for specific CPT codes from state to state. It only raises the question of whether Minnesota's list of 74 most frequently billed procedures is representative of the most frequent procedures in other states.

Another factor is that comparing reimbursement rates alone, while a valid indicator of payment to physicians for specific services, does not consider other aspects of each state's Medicaid program. Just as states vary in terms of reimbursement systems, they also vary greatly in eligibility requirements for recipients and the types of services they cover.[7] It is outside the scope of this article to discuss these matters fully, but some implications of this factor are considered below. It is worth noting here that in comparing reimbursement rates from state to state it is important to place these rates in the context of the relative generosity and breadth of each program.

## Results and Discussion

Figure 1 presents a comprehensive view of the comparison of reimbursement rates. This graph depicts what amounts would have been paid for a year's volume of Minnesota's 74 most frequently billed procedures if they had been reimbursed at the maximum allowable rates prevalent in each state in March 1987. In other words, each state's bar is based on a calculation in which that state's maximum allowable reimbursement rate for each procedure is multiplied by the volume of each of those procedures performed in Minnesota in 1986, and all these totals are summed. Minnesota's bar is darkened to facilitate identification, and the bars corresponding to the other states in the six-state region are also emphasized for the same reason. The accompanying table provides the individual state totals represented by the bars in the graph, together with basic statistics.

These results demonstrate considerable variation among the states in what physicians would have been paid for the same volume and mix of services within these 74 CPT codes performed for Medicaid recipients in 1986. A comparison of Florida's total, $12.203 million, with Nevada's total, $30.888 million, indicates a two-and-a-half-fold difference. Such wide variation has been reported previously.[7,8] Mean reimbursement is $20.398 million, and the standard deviation, $4.614 million, is substantial. Four states' reimbursement levels exceed one standard deviation above the mean (MN, NV, TN, and WY), while six states' reimbursement levels fall more than one standard deviation below the mean (FL, MI, NH, NJ, VA, and WV). The variation between fees is somewhat overestimated in Figure 1 because of the use of CPR systems by some states, including Minnesota, and fee schedules by other states. In states using the CPR system, some physicians will be subject to their own customary charge limitations for some procedures, so that maximum available reimbursement will not always apply. In most fee schedule states, the payment is more likely to be the maximum applicable rates for all procedures.

As Figure 1 indicates, among the states responding to this survey, Minnesota ranks high in Medicaid reimbursement. Minnesota is the fourth highest payer overall, and the highest payer for these services in the six-state region. This conclusion echoes an earlier finding that describes Minnesota as one of the more generous payers among state Medicaid programs.[7] Indeed, Minnesota's maximum allowable reim-

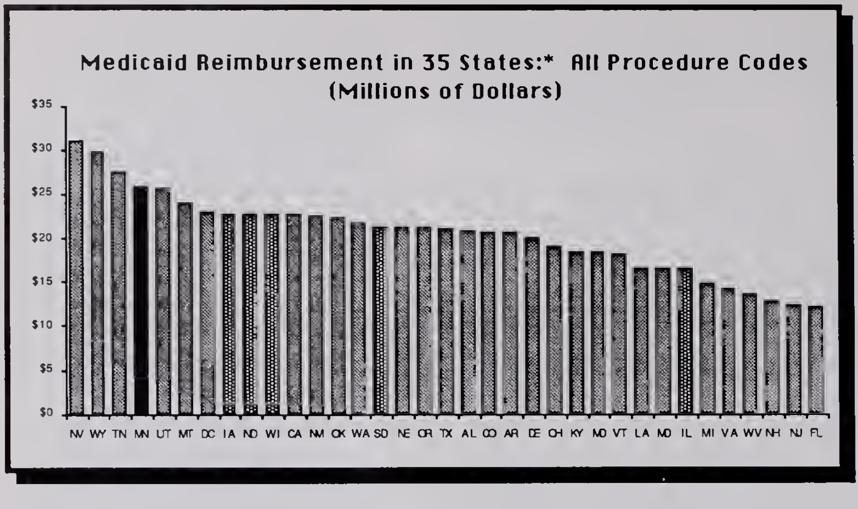


**FIGURE 1 - Medicaid reimbursement in 35 states: all procedure codes.**

This graph depicts what amounts would have been paid for a year's volume of Minnesota's 74 most frequently billed procedures if they had been reimbursed at the maximum allowable rates prevalent in each state in March 1987. In other words, each state's bar is based on a calculation in which the state's maximum allowable reimbursement rate for each procedure is multiplied by the volume of each of those procedures performed in Minnesota in 1986, and all those totals are summed.

**The totals for each state are:**

| State | $ Millions | State | $ Millions | State | $ Millions |
|---|---|---|---|---|---|
| AL | 20.807 | MI | 14.798 | OR | 21.301 |
| AR | 22.586 | **MN** | **25.830** | SD | 21.346 |
| CA | 22.631 | MO | 16.516 | TN | 27.483 |
| CO | 20.730 | MT | 23.912 | TX | 21.010 |
| DC | 22.978 | ND | 22.683 | UT | 25.563 |
| DE | 19.981 | NE | 21.327 | VA | 14.175 |
| FL | 12.203 | NH | 12.797 | VT | 18.160 |
| IA | 22.702 | NJ | 12.325 | WA | 21.581 |
| IL | 16.430 | NM | 22.400 | WI | 22.643 |
| KY | 18.385 | NV | 30.888 | WV | 13.663 |
| LA | 16.574 | OH | 19.016 | WY | 29.820 |
| MD | 18.324 | OK | 22.351 | | |

Minimum = $12,203,156 (FL)
Maximum = $30,888,326 (NV)

Mean = $20,397,671
Std. Dev. = $4,613,515

The reimbursement rates used in this graph derive from a national survey conducted by the Minnesota Department of Human Services in February-March, 1987. States not represented failed to respond to this survey or use coding systems that are not comparable.

Source: DHS Health Care and Residential Programs, 1/19/88

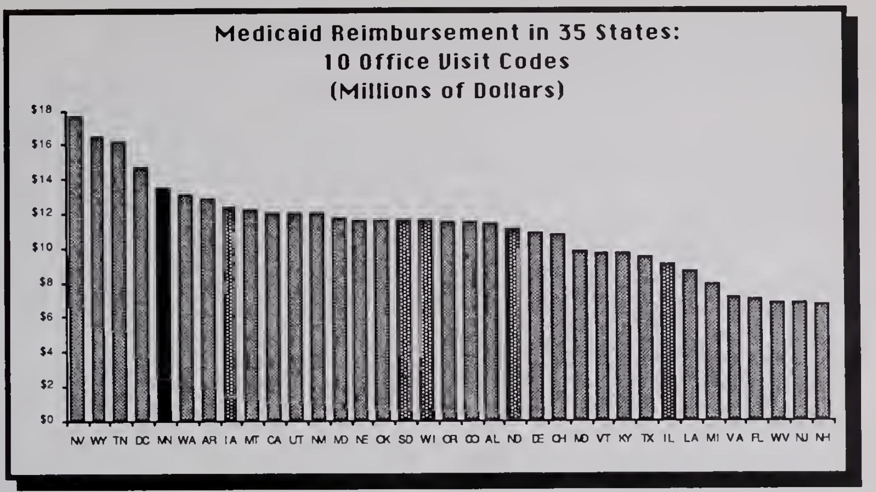
bursement for this group of services, $25.830 million, is more than $800,000 over one standard deviation above the mean reimbursement rate for this group of services.

Further, it is arguable that Minnesota ranks even higher when other aspects of Medicaid programs are considered. Of the other highest ranking payers, Nevada and Tennessee are two of a small minority of states that extend Medicaid services to categorically needy recipients but choose not to do so for individuals who are eligible for medical, but not financial, assistance. Wyoming offers Medicaid to both categorically and medically needy individuals, but it offers among the least comprehensive programs of all 50 states. By contrast, Minnesota's Medicaid program is relatively generous in terms of eligibility and offers one of the nation's most comprehensive set of benefits to eligible individuals.

Figures 2 and 3 examine office and hospital visits, the highest total cost areas of the seven groups of services within the 74 procedure codes, to facilitate comparison of maximum allowable rates for certain common services. (Figures for the other five areas are available from the author upon request.) Comparison of the states' rates in the different service categories further demonstrates the substantial variability and range of rates among the states participating in this survey. Of course, a tendency exists for relatively low payers in one area to offer similarly low rates in other areas, but this is not always the case. For instance, the four lowest overall payers in this survey, New Hampshire, New Jersey, Florida, and West Virginia, are all low in the major areas of office, hospital, long-term care facility, and emergency room visits, and for consultations. But New Hampshire's rates are more average and West Virginia's are high for laboratory procedures. All four have close to average rates for psychiatric visits. And West Virginia is about average for immunizations, while New Jersey is actually high for these procedures.

Similarly, higher payers tend to be high in most individual areas, but inconsistency remains the rule rather than the exception. A good example is Texas, which offers among the nation's highest maximum allowable rates for hospital visits, laboratory procedures, and consultations, offers near average rates for other areas, and does not cover immunizations. Another example is Iowa, which offers relatively high rates in all areas except two. Iowa's rates for immunizations are among the nation's lowest, and its reimbursement for the three psychiatry codes in this survey is the lowest among all states that cover these services. These substantial variations are likely to differentially affect access for Medicaid recipients in the different states, and perhaps, for certain services within any given state.

Table 2 summarizes Minnesota's position for all procedures included in this survey and for each of the seven clinical areas examined. The table also indicates the number of CPT codes and individual procedures in each area. Clearly, Minnesota is among the highest Medicaid payers in this survey, but, as with other states, Minnesota's rank also varies by the clinical area considered. Overall, Minnesota is the fourth highest among the 35 states and first in the six-state Upper Midwest region. It is fifth in the nation and first in the region in the high-volume and high-total-cost area of office visits, and even higher nationally in the costly category of hospital and long-term care visits. But its relative rank drops in some areas, particularly in emergency room visits, laboratory tests, and immunizations. Perhaps more important is the fact that Minnesota's rates are above the national mean in all areas. In fact, Minnesota's rates are above one standard deviation over the national mean in the areas of hospital and long-term care visits and psychiatric visits, and its rates are close to being above one standard deviation over the national mean for office visits and consultations.

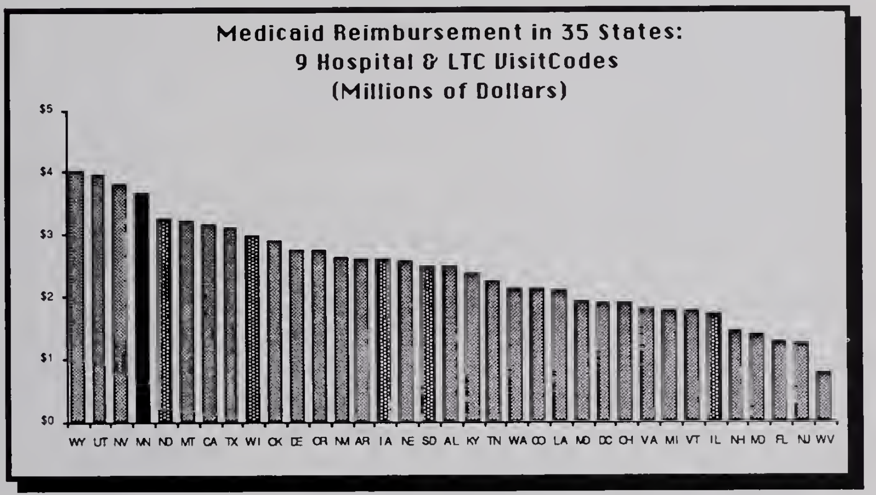


Minnesota's total = $13.537 million

Minimum = $6.708 million (NH)
Maximum = $17.588 million (NV)

Mean = $11.088 million
Std. Dev. = $2.703 million

**FIGURE 2 - Medicaid reimbursement in 35 states: 10 office visit codes.**



Minnesota's total = $3.668 million

Minimum = $0.766 million (WV)
Maximum = $4.012 million (WY)

Mean = $2.418 million
Std. Dev. = $0.804 million

**FIGURE 3 - Medicaid reimbursement in 35 states: 9 hospital and LTC visit codes.**

## Conclusion

This survey of 35 states' Medicaid maximum reimbursement levels for common physician services confirms the wide variation in rates among states identified by other analysts. In addition, however, this survey highlights the frequent variability within individual states in reimbursement for specific groups of services. The impact of these intra-state variations on both recipients and providers is not often recognized and less frequently understood. Despite the variation among some services in Minnesota, the conclusion is inescapable that, in the context of both the nation and the region, Minnesota is a relatively generous Medicaid payer for the frequent procedures surveyed in this study. Indeed, it is notable that of the five Medicaid programs with the highest reimbursement rates considered in this survey, Minnesota's is the most generous to recipients in terms of eligibility and range of benefits offered and still pays physician providers well by national Medicaid standards.

Minnesota's maximum allowable rates for the most frequently billed services are relatively high despite the fact that the rates have not been raised since 1985 and are still based on 1982 charges. The 5% cutback enacted by the legislature in July 1987 is not deducted from the rates used in this study, since the study is based on rates current in February and March of that year. A 5% reduction would cut approximately $1.3 million from Minnesota's total reimbursement for the 74 procedures considered here. This reduction would have altered Minnesota's ranking only slightly. Minnesota would have dropped from fourth to fifth place nationally, behind Utah, but would have

**TABLE 2**
Minnesota's ranking on Medicaid maximum allowable reimbursement among 35 states and the six-state region

| Clinical Area | Rank in 35 states | Rank in six-state region | Above National Mean | Above or Near One Std. Dev. Over National Mean |
|---|---|---|---|---|
| All procedures (74 CPT codes with 1,357,717 procedures) | 4 | 1 | x | above |
| Office visits (10 CPT codes with 677,227 procedures) | 5 | 1 | x | near |
| Hospital & LTC visits (9 CPT codes with 93,743 procedures) | 4 | 1 | x | above |
| Emergency room visits (6 CPT codes with 60,605 procedures) | 12 | 2 | x | |
| Consultations (4 CPT codes with 27,421 procedures) | 7 | 3 | x | near |
| Psychiatric visits (3 CPT codes with 25,064 procedures) | 5 | 3 | x | above |
| Laboratory tests (26 CPT codes with 340,638 procedures) | 13 | 2 | x | |
| Immunizations (5 CPT codes with 56,225 procedures) | 18 | 2 | x | |

Note: Eleven of the 74 procedures were not analyzed independently because the clinical areas to which they correspond were judged to have too few codes for meaningful analysis.

remained firmly in first place in the six-state region. As indicated, the state legislature ended the 5% reduction in its most recent session and further eliminated the physician's individual customary fee limitation, a source of inequity and irritation for some physicians. How these changes affect access to services by Minnesota's Medicaid-eligible population, and how these rates compare with Medicare's and other third-party payers', are questions that require additional investigation.

## Acknowledgments

The author wishes to thank the following individuals, all at the Minnesota Department of Human Services. For editorial review, Robert Baird, Mary Kennedy, and Kathryn Lamp; and for technical assistance, Elizabeth McGuinn, William Hassinger, Steven Harper, Sharon Flynn, and Warren Nyhus, who administered the survey prior to the author's involvement. Appreciation is also extended to the 38 state Medicaid agencies that responded to the survey upon which this study is based. Any remaining errors of fact or interpretation are the responsibility of the author.

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# ARMY RESERVE MEDICAL PROFILE NO.7

## ALLAN J. HAMILTON, M.D.

Neurosurgical Resident and Research Fellow, Massachusetts General Hospital, Boston, Massachusetts. Captain, U.S. Army Reserve.

**EDUCATION** Ithaca College, B.A. (Magna Cum Laude); Hamilton College (Pre-med); Harvard Medical School.

**RESIDENCY** General Surgical Internship. Neurosurgical Residency, Massachusetts General Hospital.

**CONTINUING EDUCATION** Neurology and Neurosurgery Research Fellowship Training, National Institutes of Health.

**OUTSTANDING ACHIEVEMENTS** Olsen Memorial Fellowship, National Masonic Medical Research Foundation; Albert Schweitzer Fellowship, International Albert Schweitzer Foundation; Harvard Medical School Cabot Prize for Best Senior Thesis; recently published article, "Who Shall Live and Who Shall Die" in Newsweek Magazine.

"The work I'm doing in the Army Reserve fits perfectly with my academic research interests in civilian life. The Army is very concerned with the effects of high-altitude cerebral edema, which is a mirror model of cerebral hypoxia, something I deal with every day in our neurosurgical intensive care unit. I couldn't ask for a smoother transition. And that's true for a lot of Reserve physicians. All we really do is change our clothes, not our mindset.

"Some of the projects the Army is undertaking are on the cutting edge of research. For example, I'm currently involved in developing for the Army a prototype of a non-invasive intracranial pressure-monitoring device that we hope will allow us to measure pressure changes as the brain swells—without drilling holes in the skull. If we can get our design to work, such a device could revolutionize high-altitude medicine as well as civilian neurosurgical care.

"The quality of medicine and the caliber of people I've been associated with in the Army Reserve are, without question, equal to civilian hospitals. In fact, I'm giving serious consideration to applying for an active duty academic position in Army Medicine when my residency ends at Massachusetts General."

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**Indications and Usage:** Axid is indicated for up to eight weeks for the treatment of active duodenal ulcer In most patients, the ulcer will heal within four weeks

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**Contraindication:** Axid is contraindicated in patients with known hypersensitivity to the drug and should be used with caution in patients with hypersensitivity to other $H_2$-receptor antagonists

**Precautions:** *General*—1. Symptomatic response to nizatidine therapy does not preclude the presence of gastric malignancy

2 Because nizatidine is excreted primarily by the kidney, dosage should be reduced in patients with moderate to severe renal insufficiency

3 Pharmacokinetic studies in patients with hepatorenal syndrome have not been done Part of the dose of nizatidine is metabolized in the liver In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects

*Laboratory Tests*—False-positive tests for urobilinogen with Multistix® may occur during therapy with nizatidine

*Drug Interactions*—No interactions have been observed between Axid and theophylline, chlordiazepoxide, lorazepam, lidocaine, phenytoin, and warfarin Axid does not inhibit the cytochrome P-450-linked drug-metabolizing enzyme system, therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur. In patients given very high doses (3,900 mg) of aspirin daily, increases in serum salicylate levels were seen when nizatidine, 150 mg b i d., was administered concurrently.

*Carcinogenesis, Mutagenesis, Impairment of Fertility*—A two-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect There was a dose related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa In a two-year study in mice, there was no evidence of a carcinogenic effect in male mice; although hyperplastic nodules of the liver were increased in the high dose males compared to placebo Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups The rate of hepatic carcinoma in the high dose animals was within the historical control limits seen for the strain of mice used The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement compared to concurrent controls, and evidence of mild liver injury (transaminase elevations) The occurrence of a marginal finding at high dose only in animals given an excessive, and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery is not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, and the mouse lymphoma assay.

In a two-generation, perinatal and postnatal, fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

*Pregnancy—Teratogenic Effects—Pregnancy Category C*—Oral reproduction studies in rats at doses up to 300 times the human dose, and in Dutch Belted rabbits at doses up to 55 times the human dose, revealed no evidence of impaired fertility or teratogenic effect; but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in one fetus and at 50 mg/kg it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in one fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

*Nursing Mothers*—Nizatidine is secreted and concentrated in the milk of lactating rats. Pups reared by treated lactating rats had depressed growth rates. Although no studies have been conducted in lactating women, nizatidine is assumed to be secreted in human milk, and caution should be exercised when nizatidine is administered to nursing mothers.

*Pediatric Use*—Safety and effectiveness in children have not been established

*Use in Elderly Patients*—Ulcer healing rates in elderly patients are similar to those in younger age groups. The incidence rates of adverse events and laboratory test abnormalities are also similar to those seen in other age groups Age alone may not be an important factor in the disposition of nizatidine Elderly patients may have reduced renal function.

**Adverse Reactions:** Clinical trials of nizatidine included almost 5,000 patients given nizatidine in studies of varying durations. Domestic placebo-controlled trials included over 1,900 patients given nizatidine and over 1,300 given placebo. Among the more common adverse events in the domestic placebo-controlled trials, sweating (1% vs 0.2%), urticaria (0 5% vs <0.01%), and somnolence (2 4% vs 1.3%) were significantly more common in the nizatidine group. A variety of less common events was also reported, it was not possible to determine whether these were caused by nizatidine

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*Hepatic*—Hepatocellular injury, evidenced by elevated liver enzyme tests (SGOT [AST], SGPT [ALT], or alkaline phosphatase), occurred in some patients possibly or probably related to nizatidine. In some cases, there was marked elevation of SGOT, SGPT enzymes (greater than 500 IU/L), and in a single instance, SGPT was greater than 2,000 IU/L. The overall rate of occurrences of elevated liver enzymes and elevations to three times the upper limit of normal, however, did not significantly differ from the rate of liver enzyme abnormalities in placebo-treated patients. All abnormalities were reversible after discontinuation of Axid.

*Cardiovascular*—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in two individuals administered Axid and in three untreated subjects.

*Endocrine*—Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to Axid. Impotence and decreased libido were reported with equal frequency by patients who received Axid and by those given placebo. Rare reports of gynecomastia occurred.

*Hematologic*—Fatal thrombocytopenia was reported in a patient who was treated with Axid and another $H_2$-receptor antagonist. On previous occasions, this patient had experienced thrombocytopenia while taking other drugs,

*Integumental*—Sweating and urticaria were reported significantly more frequently in nizatidine than in placebo patients. Rash and exfoliative dermatitis were also reported.

*Other*—Hyperuricemia unassociated with gout or nephrolithiasis was reported.

**Overdosage:** There is little clinical experience with overdosage of Axid in humans If overdosage occurs, use of activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy. Renal dialysis for four to six hours increased plasma clearance by approximately 84%.

Test animals that received large doses of nizatidine have exhibited cholinergic-type effects, including lacrimation, salivation, emesis, miosis, and diarrhea Single oral doses of 800 mg/kg in dogs and of 1,200 mg/kg in monkeys were not lethal. Intravenous $LD_{50}$ values in the rat and mouse were 301 mg/kg and 232 mg/kg respectively PV 2091 AMP [041288]

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# Pregnancy Risk in Women Over 35

*Deborah Erickson, M.D., and Barbara Elliott, Ph.D.*

**Advanced maternal age has been regarded as a high-risk factor for pregnant women since the 18th century. Yet the number of women delivering babies after age 35 continues to grow. This study was initiated to determine whether age itself is a risk factor or if other risk factors explain the mature gravidas' increased risk. A sample of 170 women pregnant after age 35 was compared with 135 women pregnant between ages 20 and 29. The older and younger women were compared regarding pregnancy and labor complications, delivery outcome, and neonatal outcomes. Pregnancy complications were found to be of somewhat greater incidence in older women, but this difference was not statistically significant. With regard to complications of labor, some non-significant differences between age groups were also documented. Precipitous labor occurred more often in older multiparas (as expected), and younger women were more likely to receive paracervical block anesthesia. Considering delivery and neonatal outcomes, the rates of Cesarean sections, low APGAR scores, stillbirth, prematurity, and neonatal intensive care unit (NICU) admissions were investigated. More premature deliveries and NICU admissions in older women were documented and found to be statistically significant. However, when controlling for the presence of pregnancy complications or smoking as a risk factor, these differences disappeared. Healthy, mature gravidas (those who did not smoke or have other risk factors) had the same risk as younger gravidas for these problematic outcomes.**

**This study documented that mature gravidas who smoke and/or develop pregnancy complications are at a substantially increased risk for untoward delivery and neonatal outcomes, and that healthy mature gravidas are not at any increased risk for pregnancy or neonatal complications.**

Since the 18th century, advanced maternal age has been regarded as a high-risk factor for pregnant women. However, few studies have evaluated what it is about advanced maternal age that qualifies it as a risk factor. Ian Morrison noted a higher neonatal morbidity in primigravidas of any age but felt older primigravidas were more likely to require operative intervention.[1] In fact, Cesarean section rates in older primes have ranged from 9.2% in Kessler's study[4] to 63% in a study by Kajanoja[2] in Finland. Blum concluded that chronic diseases related to age, such as hypertension and diabetes, accounted for any risk greater than that of the pregnancy itself.[3] Stein excluded women with hypertension, diabetes, obesity, and thrombophlebitis in his work[6] and was able to show no increased perinatal mortality in the babies of healthy older mothers. Kirz concluded that, "when they are given good prenatal and intrapartum care . . . the risks to healthy women over 35 years and older in the 1980s may be no more than the risks to the younger parturients."[7] Clearly, the question remains whether increased maternal age is a risk factor in pregnancy.

Social changes have led to an increasing number of women in the over-35 age group delivering babies. The study reported here addresses questions of pregnancy risk and maternal age by comparing obstetrical complications and outcomes between mature and younger women while examining concurrent risk factors.

## Materials and Methods

The study was conducted at St. Mary's Medical Center (SMMC) in Duluth, Minnesota, a tertiary-care hospital where approximately 1,400 deliveries occur each year. Women who were 35 years old or older delivered 4.4% of the babies in 1984 and 6.9% of the babies in 1986. One hundred seventy women (all aged 35 or over) who delivered their infants at SMMC between January 1, 1985, and December 31, 1986, made up the study group. A control group of 135 women (aged 20 to 29) was randomly selected from deliveries at the same hospital during the same time.† Charts were reviewed retrospectively to compare the older pregnant women with the women in the control group. For analysis of delivery and neonatal outcomes, these groups were stratified to indicate gravidity and the presence or absence of antenatal risk factors (hypertension, preeclampsia, diabetes, abruptio placenta, placenta previa, macrosomia, small for gestational age [SGA], hydramnios, and smoking). "Healthy" mothers had none of these risk factors in their records. The sample and its divisions are described in Table 1.

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†The Epistat computer program demonstrated that a sample of 135 cases and 135 controls would be sufficient to detect the differences between the older and younger gravidas 90% of the time (power), with 95% certainty that the differences would not be due to chance (p=05).

## Results

Information was gathered and analyzed in a method similar to Kirz's[7] in his excellent study done in 1985. The four analyses investigated pregnancy complications, labor complications, delivery outcome (Cesarean/vaginal delivery), and neonatal outcomes. The only statistically significant differences between the younger and the older groups were in neonatal outcomes. The results are summarized in Table 2.

**Pregnancy Complications:** The complications reviewed consisted of abruptio placenta, placenta previa, meconium, smoking, PROM/premature labor, diabetes, and hypertension/preeclampsia. Older primes had a higher percentage of PROM/premature labor (25%) than the younger primes (14.3%). Diabetes was more common in the older group, as expected, and older multips had a higher percentage of preeclampsia/hypertension than younger multips. However, none of these differences reached statistical significance.

**Labor Complications:** Several variables were compared in this outcome category as well. They included the use of Pitocin for induction or augmentation, prolonged labor (greater than 20 hours), precipitous labor (less than 3 hours), and the use of paracervical blocks during labor. Again, no statistically significant differences were noted when comparing the incidence of complications among mature gravidas with those in the younger age group. Precipitous labor was seen in older multips when they had their third or fourth child. Also, younger mothers tended to request paracervical blocks more often than the older women.

**Delivery Outcomes:** In this study, delivery outcome refers to the rate of Cesarean sections. The mature primigravidas had a 30.3% rate of Cesarean section deliveries, compared with 24.4% for the younger prima gravidas. The differences (and those shown in Table 2) were not significant. It is important to note that the "healthy" primes (those without other risk factors) in the older group had a Cesarean section rate comparable to that of the younger primigravidas (24.7% for the younger women, 25% for the older women; Table 3).

**TABLE 1**
Age and gravida status of study sample

| Risk Status | Age 20 - 29 Primes | Age 20 - 29 Multips | Age ≥ 35 Primes | Age ≥ 35 Multips | Total (N) Primes | Total (N) Multips |
|---|---|---|---|---|---|---|
| "Healthy" (no risk factors) | 53.1% | 58.1% | 50.0% | 61.3% | 40 | 137 |
| "High Risk" (with any risk factors, including smoking) | 46.9% | 41.9% | 50.0% | 38.7% | 37 | 91 |
| TOTAL | N=49 | N=86 | N=28 | N=142 | 77 | 228 |

**TABLE 2**
Complications and outcomes of pregnancy by maternal status

| | Maternal Status | | | | | |
|---|---|---|---|---|---|---|
| Outcome Variables | Age 20 - 29 | | Age ≥ 35 | | Total (N) | |
| | Primes | Multips | Primes | Multips | Primes | Multips |
| **Pregnancy complications** | | | | | | |
| PROM/premature labor | 14.3% | 8.1% | 25.0% | 11.3% | 14 | 23 |
| Preeclampsia/hypertension | 12.2% | 3.5% | 10.7% | 9.9% | 9 | 17 |
| Diabetes Mellitus | 4.1% | 3.5% | 7.1% | 6.3% | 4 | 12 |
| **Labor complications** | | | | | | |
| Precipitous labor | 4.1% | 2.3% | 0% | 14.8% | 2 | 23 |
| Paracervical blocks | 40.1% | 36.0% | 14.3% | 11.3% | 24 | 47 |
| **Delivery outcomes:** | | | | | | |
| Cesarean sections | 24.4% | 17.5% | 30.3% | 23.7% | 21 | 49 |
| **Neonatal outcome:** | | | | | | |
| Prematurity | 2.0%** | 6.9% | 19.2%** | 9.9% | 6 | 20 |
| NICU Admission | 8.2%* | 5.8% | 25.0% | 10.6% | 11 | 20 |
| Morbidity | 4.1% | 4.7% | 17.9% | 9.9% | 7 | 18 |
| Fetal Demise | | | | | | |
| <25 weeks gestation | 0% | 0% | 7.1% | 2.8% | 2 | 4 |
| ≥25 weeks gestation | 2.0% | 0% | 0% | 2.1% | 1 | 3 |
| TOTALS | N=49 | N=86 | N=28 | N=142 | N=72 | N=228 |

** Statistical significance, $p \leq .05$
* Statistical trend

**TABLE 3**
Delivery and neonatal outcomes with regard to maternal age, gravida, and risk status

| | Age 20 - 29 | | Age ≥ 35 | | Total (N) | |
|---|---|---|---|---|---|---|
| Outcome Variables | Primes | Multips | Primes | Multips | Primes | Multips |
| **Cesarean sections** | | | | | | |
| High-risk women | 26.0% | 19.4% | 35.7% | 27.3% | 11 | 23 |
| "Healthy" women | 24.7% | 16.8% | 25.0% | 22.3% | 10 | 27 |
| **Premature deliveries** | | | | | | |
| High-risk women | 4.8%** | 7.1% | 45.5%** | 9.7% | 6 | 19 |
| "Healthy" women | 0% | 0% | 0% | 0% | 0 | 0 |
| **NICU admissions** | | | | | | |
| High-risk women | 18.2% | 5.8% | 46.2% | 8.5% | 10 | 17 |
| "Healthy" women | 0% | 0% | 6.7% | 2.1% | 1 | 3 |
| TOTAL | N=49 | N=86 | N=28 | N=142 | N=77 | N=228 |

** Statistical significance, $p \leq .05$
* Statistical trend

**Neonatal Outcome:** Nine variables were evaluated in the neonatal outcome category, including premature delivery (less than 37 weeks gestation), NICU admission, postdates (greater than 42 weeks gestation), APGAR scores less than 4 and 7 (at 1 and 5 minutes), stillbirths, and neonatal mortality. Premature delivery at less than 37 weeks provided the only statistically significant findings in the study. Older primes delivered prematurely at a rate of 19.2% compared with 2.0% in younger primes (no significant differences were noted in the multips; see Table 2). In further evaluations of the data, the presence or absence of other risk factors was investigated. The "healthy" groups did not have a single case of premature delivery. On the other hand, older primes with known risk factors during pregnancy had a 45.5% chance of premature delivery, compared with a rate of 4.8% in the younger women (see Table 3). This difference clearly suggests that older women with antenatal risk factors are highly likely to deliver prematurely—and that older gravidas without risk factors are unlikely to experience premature delivery.

The relationship between maternal age and prematurity also was reflected in the NICU admissions. There was a statistical trend in the data documenting that older primes were more likely than younger primes to have babies needing NICU admission. Twenty-five percent of the older primes, as compared with 8.2% of the younger primes, had children who needed NICU admission. Further evaluation indicated that the infants of healthy women, regardless of maternal age, were not likely to need NICU admission.

Also related to the findings linking maternal age and prematurity were the results regarding neonatal morbidity. Neonatal morbidity was defined as an APGAR score of less than 4 at 1 minute, or less than 7 at 5 minutes. Both older primes and older multips had infants with higher morbidity than the younger women, but the differences were not statistically significant.

Stillbirth also was evaluated as a neonatal outcome. Stillbirth cases were divided into two groups, based on gestational age of less than or greater than 25 weeks. In total, ten fetuses died; nine of these were fetuses of mothers older than 35 years of age. However, only two of the nine fetal deaths occurred after the fetus was viable. Six of the ten mothers who suffered a stillbirth had at least one of the pregnancy risk factors discussed earlier.

## Discussion

The results of this study indicate that older gravidas with risk factors are at highest risk for complications of pregnancy and delivery. Those without risk factors are not at greater risk than younger gravidas. Previous studies (Kajanoja,[2] Kessler,[4] and Naeye[5]) had documented related findings but did not differentiate levels of higher risk.

In his study, Naeye[5] documented that older women are at greater risk for complications during pregnancy and at delivery because of their increased problems maintaining a placenta. He noted that the incidence of large placental infarcts increases gradually with age (independent of maternal hypertension); likelihood of placental growth retardation also increases with age, as does the percentage of sclerotic lesions in the intramyometrial arteries. In addition, other physiologic risk factors (such as hypertension and diabetes) can further compromise placental functioning. In the current study, the risks of hypertension, diabetes, preeclampsia, abruptio placenta, placenta previa, macrosomia, SGA, and hydramnios were present in 42.9% of the older gravidas in the study. Adding smoking as a risk factor to this list (which can also affect placental functioning) increased the presence of risk to 50% of the mature primigravidas. The number of younger primes with incidence of risk factors climbed from 28.6% to 46.9% with the addition of smoking as a risk factor. Naeye's finding and the results of this study imply that the additional placental stress from smoking may be better tolerated by younger women. This implication needs further evaluation.

The findings about fetal death in this study replicate Naeye's study as well. Naeye documented a higher incidence of stillbirth in women over 30, which was also evident in this study. Older women in the Duluth study were 7.5 times more likely than younger women to have fetal demise (although this finding was not statistically significant). These deaths occurred primarily before 25 weeks gestation. Again, placental insufficiency can be implicated; there were known risk factors present in 60% of these mothers.

Premature deliveries in this study were 11 times more frequent in older primes than in younger primes, however, all of these women were in the "high-risk" group. This again is indirect evidence that younger women can tolerate adverse conditions during pregnancy much better than older women.

The differences in incidence of Cesarean section in this study were not found to be statistically significant. In fact, rates of Cesarean section were equal among women without risk factors, regardless of age. Kirz[7] commented that in older women, "physicians may use a lower threshold for terminating the pregnancy or labor process." The findings of the Duluth study imply that healthy mature gravidas do not need hasty intervention.

Women are increasingly delaying marriage and childbearing into their thirties to pursue education, careers, and financial stability. They need accurate information regarding their individual risks during pregnancy. Women should be informed that smoking is much more detrimental to pregnancy as they enter their thirties, and various physiologic factors will place them in a higher-risk category as well. Conversely, healthy women need reassurance that pregnancy can be delayed without fear of greatly increasing their complications. The findings of this study support that reassurance.

## Acknowledgment

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*Deborah Erickson is a family physician practicing in Warroad, Minnesota. She completed this research while a resident in the Duluth Family Practice Program. Dr. Erickson presented this paper at the Minnesota Academy of Family Physicians' Spring Research Forum in April 1988 and was awarded the third-place recognition of excellence.*

*Barbara Elliott is director of Behavioral Science and Research at the Duluth Family Practice Residency Program in Duluth, Minnesota, and has a three-year Kellogg National Leadership Fellowship.*

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LAWRENCE M. POSTON, M.D.

# Are You a Preferred Provider?

We are all aware of Minnesota's experience in alternative health care payment mechanisms. This evolving environment is influencing our practices to a greater or lesser degree depending on our location in the state. If we look, we will find commentary on this system from diverse points of view in a variety of publications, including, of course, *Minnesota Medicine*. It behooves us all to follow and to be involved in this discussion.

One recent article, in the April issue of *Minnesota Physician*, got me thinking about preferred providers. The article, "The Movement to Reform Health Care Regulation in Minnesota," made several interesting points:

- "HMOs currently enjoy the ability to select specific providers to participate in their plans."
- " . . . employers who self insure are increasingly electing to incorporate preferred provider arrangements . . . into their plans."
- "Legislators ultimately may be persuaded that competition will be enhanced if all health care plans are free to limit their provider panels."

The concept of the preferred provider is a reality that will likely be expanded in its application.

What, exactly, is a preferred provider? We might naively wish to define it, from the patient's point of view, as a doctor who provides, directly or by appropriate referral, the best medical care possible in any given set of circumstances. That, however, is not the meaning in today's environment. Instead, preferred provider is a concept used by third-party payers—be they government, indemnity insurers, HMOs, or self-insured corporations—that describes a doctor who delivers care at a cost significantly less than others of the profession. There seems to be little doubt that the identification and utilization of such preferred providers is motivated primarily by cost-containment goals. The delivery of high-quality care is expected, but because we, as yet, have no clear, objective way to define high-quality care, cost control is the bottom line. That being so, it would hardly be reasonable from the payer's point of view to equate "the best" with the "most costly" and then to seek preferred providers on that basis.

How, then, do we become preferred providers? We might make the cost of care the determining factor in the services we provide. This method clearly carries with it the risk of delivering inadequate care, at least some of the time. We might charge less than our colleagues or accept a lower capitation payment. This method *might* work if we can care for more patients in a given time frame and still survive today's overhead costs of practice. Or, we can do what we all *must* do to merit the trust we seek as the preferred providers of health care for our society.

To the the fullest extent possible, we can use our knowledge, our education, our experience, and our skills to evaluate each patient. We can take a proper history and perform an appropriate physical examination, the two basic foundations of all accurate diagnosis. We can then thoughtfully formulate a differential diagnosis if the problem is not yet clear. Only then can we perform or prescribe carefully selected studies or tests to confirm or deny our hypothesis, making sure that we order only those that will add significantly to our knowledge and understanding.

We must resist the temptation to perform unnecessary studies when they only confirm facts we already know, when they are done in the name of "defensive medicine," or when the results will not influence our treatment plan. Once we have completed our proper evaluation and have arrived at a reasonable conclusion we can then propose, encourage, and provide appropriate therapy. In so doing, we must consider the individual circumstances of the case. We must evaluate the benefits versus the burdens of our proposals. We must weigh the merits of medical versus surgical management. We must take into account the site of treatment, e.g., hospital versus outpatient. We must judge the efficacy of alternative treatment modalities, e.g., trade name versus generic, and oral versus parenteral medication administration.

We must be equally circumspect in our approach to "screening" and "preventive medicine."

The right and the proper decisions in these matters are the essence of the practice of high-quality medicine. Fortunately, the same factors are the elements of cost-effective medical care.

A good physician *is* a preferred provider. We must convince the patient and the payer of that fact!

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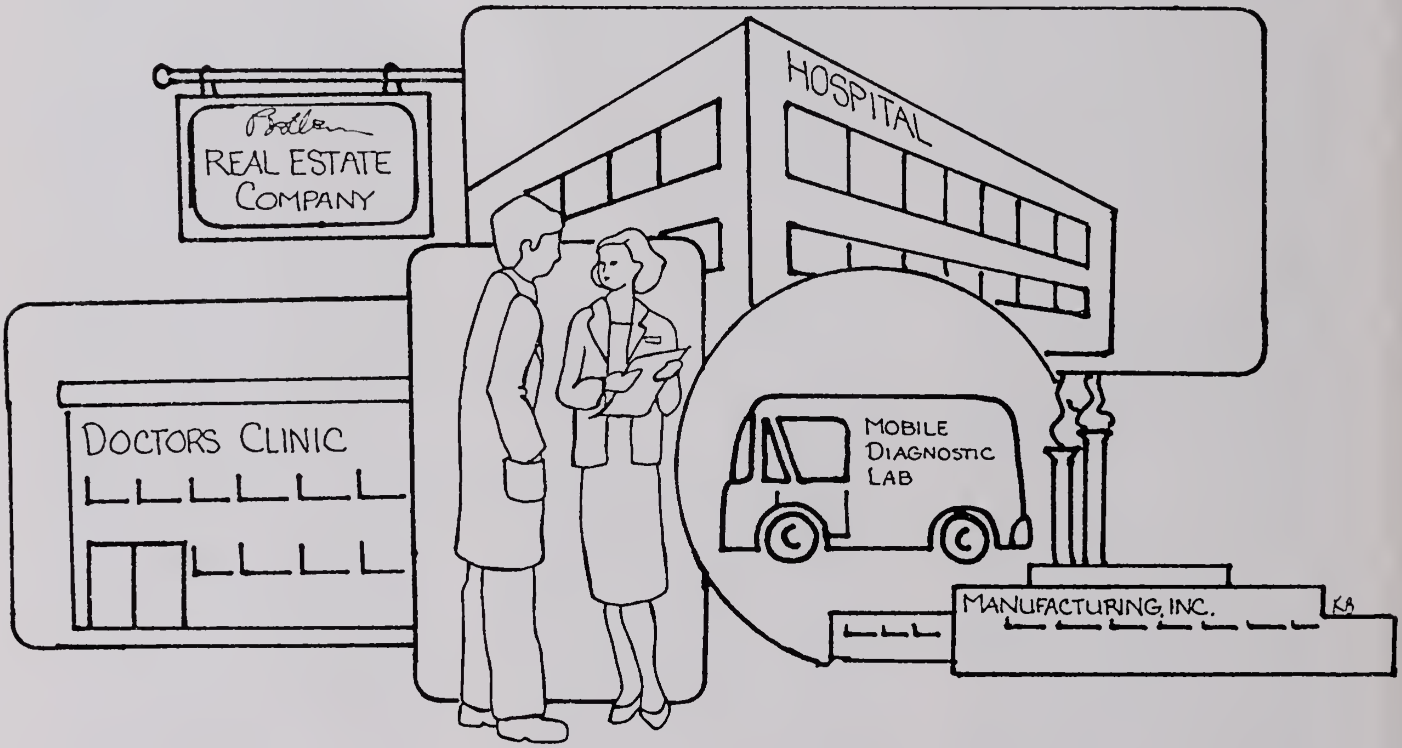

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# Relative Value Scale

*Steven D. Carter*

For almost two years, Harvard health economist William Hsiao, Ph.D., has been designing a resource-based relative value scale (RVS) for physicians. In mid-July, the Health Care Financing Administration (HCFA), will receive the study from Harvard University. This study is of critical importance because it will begin the formal process of developing a Medicare fee schedule. The idea behind RVS is to assign value to physician services and develop a scale for reimbursement by third-party payers. The government is serious about the concept because it can save money.

This study will be released to the public in mid-August and will include an analysis of anesthesiology, family practice, internal medicine, obstetrics, ophthalmology, orthopedics, otolaryngology, pathology, radiology, surgery, and urology. Additional private funding will support studies of allergy, dermatology, immunology, oral and facial surgery, pediatrics, psychiatry, and rheumatology. Studies funded by Congress will provide information on oncology and neurosurgery. The study ranks procedures according to cognitive effort, technical skill, mental stress, risk, and intensity of involvement.

In discussions about the RVS study last March, researchers indicated that Medicare could increase reimbursement to family physicians and primary care internists by as much as 30 percent while cutting surgeons' reimbursement almost 25 percent.

## Physician Payment Review Commission

The Physician Payment Review Commission (PPRC) is the influential group that will be responsible for review of the RVS study and for making recommendations to Congress on changing physician reimbursement. The commission's clout was underscored in recent recommendations for proposed budget cuts of $135 million. Included were recommendations to cut payments to radiologists and anesthesiologists by 10 percent, reduce rates for 12 additional physician services, and end Medicare payments to surgeons supervising certified nurse anesthetists. In addition, PPRC has proposed:

- ► a cost-of-practice index to reduce regional fee variances,
- ► increases in fees for primary care services such as office visits, emergency care, and home health care,
- ► geographic caps on fees for nonprimary care services,
- ► broader use of preadmission screening,
- ► case management of high-cost cases,
- ► periodic accreditation of all Medicare HMOs.

Although PPRC has not yet endorsed the Harvard RVS study, it has urged Congress to abolish the current payment system in favor of a relative value scale. The commission wants a system that takes into account the time and unique elements of physician services. By assigning a value and ranking services, payment could increase for difficult and/or time-consuming services and decrease for others.

As part of this process, PPRC has to find a way to adjust rates for geographic variation and overhead costs such as personnel and insurance. Once there is agreement on a fee schedule, PPRC will recommend ways to update Medicare rates for inflation, technology, and changes in mandated requirements.

## Limitations

PPRC has indicated that the RVS study is not a final solution for determining reimbursement. It does not address insurance issues, access to care, patient differences, quality, and differences in physician training and ability. Although the commission has not taken a stand on mandatory assignment, consumers will push for RVS and mandatory assignment to be combined.

## AMA's Reactions

The American Medical Association (AMA) has indicated that it will wait until the Harvard RVS study is released and then comment and make recommendations for changes. AMA will support fair treatment of all medical specialties but is worried that RVS will divide specialties and alienate members of organized medicine who would lose under the proposal. However, RVS could also help bring recognition to undervalued specialties. For example, family physicians are pleased about the recognition of cognitive services, but ophthalmologists are angry that RVS will indicate that cataract surgery may be more than 63 percent overpaid.

**RVS** *to page 441*

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## **RVS** from page 439

### What Will Happen?

In 1988, there will be a lot of RVS debate and many hearings. However, there will be little political action until campaigns are over and a new administration and congress take office in January 1989. PPRC will draft a fee schedule by March 1989. Congress wants to adopt a new reimbursement policy for physicians by 1990 and implement it by 1991.

### People to Watch

As the RVS fee schedule debate begins, watch the action of three physicians whose opinions will influence Congress. If he becomes the new head of Health and Human Services, HCFA Administrator William Roper, M.D., will set the agenda for initial RVS review. William Hsiao's colleague, Peter Braun, M.D., will become a powerful spokesperson for RVS methodology. Finally, Philip Lee, M.D., of the PPRC, will direct the final Congressional report.

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*Steven Carter is chief executive officer of the Minnesota Medical Association.*

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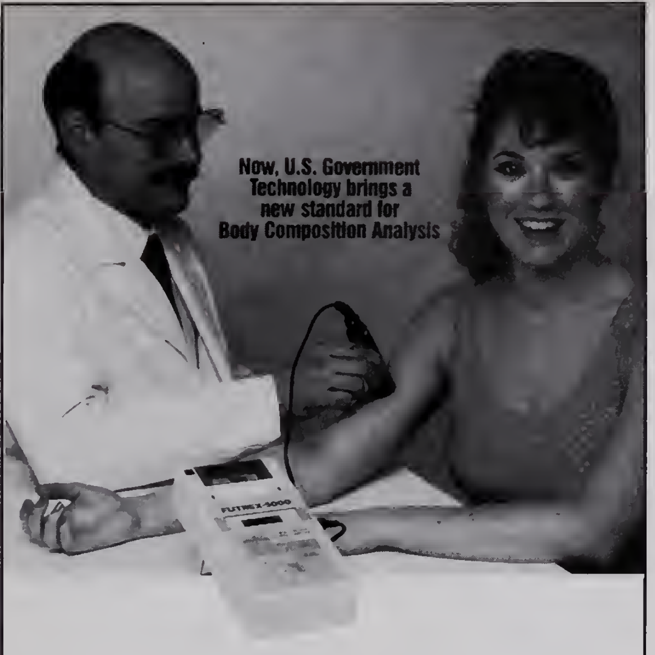
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# NEWS CLIPS

## RURAL-URBAN HMO GAP

A bill to eliminate the discrepancy between rural and urban rates paid to health maintenance organizations by Medicare was introduced in May by Rep. Ike Skelton (D-Missouri), a member of the bipartisan House Rural Health Care Coalition. Under the proposal, HMOs would be reimbursed on the basis of the intensity of services delivered. The coalition contends that the average difference between urban and rural rates is 36 percent. In Minnesota, this difference may have been responsible for four HMOs discontinuing service to 26,000 rural Medicare patients in 1987.

## UNCOMPENSATED CARE

Not-for-profit hospitals allotted significantly more resources to uncompensated care than investor-owned hospitals, a recent study revealed. The study, commissioned by the Volunteer Trustees of Not-For-Profit Hospitals in Washington indicated a wide difference in four of the five states studied in 1985. The study defined uncompensated care as the percentage of hospital expenditures going toward charity care and bad debt. Discrepancies between not-for-profit hospitals and investor-owned hospitals ranged from 100 percent in Tennessee to 50 to 90 percent in Florida, North Carolina, and Virginia. No significant difference was found in the California hospitals studied.

## HEALTHEAST ACUTE-CARE CONSOLIDATION

HealthEast, based in St. Paul, has announced plans to transfer acute-care services from Bethesda Lutheran Medical Center to St. Joseph's Hospital. HealthEast plans to save $6 million to $8 million by consolidating these services. HealthEast also has proposed converting Bethesda to a 158-bed long-term care facility and geriatric center, pending state health department approval.

## MALPRACTICE VERDICTS

Slightly more than half of plaintiffs in malpractice suits involving childbirth injuries and those involving surgery receive damage awards, according to a study conducted by Jury Verdict Research of Solon, Ohio. Of those that receive awards, however, the plaintiffs in the childbirth cases receive on average three times as much money as the cases involving surgery.

The research firm studied damage awards in malpractice cases from 1985 to 1987 and grouped the awards by the following claims: hospital negligence due to falls, hospital negligence due to non-falls, diagnosis, surgery, treatment, and childbirth. Overall, the study found, 46 percent of plaintiffs received a damage award. Average jury award for childbirth injuries was $3,012,997, and was $1,051,270 for awards for surgery injuries. Awards for hospital negligence involving falls averaged the lowest, at $128,205.

## IMMUNIZATION REACTIONS

In order to check immunized children for adverse reactions, new rules in the April 1 *Federal Register* require reporting to the government any adverse reaction to the following vaccines: diphtheria, pertussis, tetanus, measles, mumps, rubella, and oral and inactivated polio vaccines. Adverse reactions include anaphylactic shock, encephalitis, seizures, and death.

## HMO ENROLLMENT GROWTH

Although health maintenance enrollment growth slowed in 1987, it resurged this January, topping the 30,000,000 mark nationwide, according to Excelsior-based InterStudy, which charts HMO growth. HMO enrollment increased 3.5 million, or 13.6 percent in 1987, due in large part to low enrollment in the summer. This yearly growth rate lags behind the 1985 growth rate of 26 percent and the 1986 rate of 22 percent.

Numbers of HMO plans increased from 626 in December 1986 to 650 in December 1987, after peaking at 662 in September 1987.

## METROPOLITAN-MT. SINAI VP

Marvin S. Segal, M.D., cardiologist and hospital administrator, has been named vice president for medical affairs of Metropolitan-Mount Sinai Medical Center. He is a graduate of the University of Minnesota Medical School.

## NAJARIAN ASA PRESIDENT

John S. Najarian, M.D., head of surgery at the University of Minnesota Hospital and Clinic, has been elected to a one-year term as president of the American Surgical Association. This position is regarded as the highest honor that can be bestowed on an American surgeon. The association, founded in 1880, is a select professional and scientific society of surgeons elected by their peers.

## NEW MEDICAL DIRECTOR

Gregory Amer, M.D., has been named medical director of St. Mary's Chemical Dependency Services at Riverside Medical Center. Amer directs medical care for chemically dependent adult patients and educates staff members, medical students, residents, and physicians on new developments in chemical dependency and its treatment.

## NEW RAMSEY FINANCIAL OFFICER

Roger D. Jorgensen has been appointed chief financial officer of Ramsey Clinic in St. Paul. He is the former vice president of finance at Metropolitan Medical Center in Minneapolis, and will be responsible for an annual $40 million budget. Ramsey Clinic, the largest physician group in St. Paul, is a multispecialty group of 170 physicians based at St. Paul-Ramsey Medical Center.

## HYPERTENSION AWARD

Louis Tobian, University of Minnesota professor of medicine, was awarded the International Society of Hypertension's top honor, the Volhard Award, for his lifetime achievements in hypertension research. He is internationally renowned for his work, including the discovery that arteries affected by high blood pressure contain extra sodium and the idea that diet high in potassium can provide protection against strokes and kidney and artery disease for people with high blood pressure. He has been at the University since 1954.

## NEW HCMC SURGERY CHIEF

Melvin P. Bubrick, M.D., has been appointed chief of the Department of Surgery at Hennepin County Medical Center; he succeeds Claude R. Hitchcock, M.D., who is retiring from the post after 33 years.

Bubrick has been assistant chief of surgery at HCMC since January 1981, and a staff surgeon since 1975. He is also an associate professor in the Department of Surgery, University of Minnesota Medical School. He is a graduate of the University of Illinois and the University of Illinois College of Medicine.

## ON THE NATIONAL RURAL HEALTH PANEL

Dr. Robert Kelly, a Grand Rapids physician, has been named by U.S. Health and Human Services Secretary Otis R. Bowen to the National Advisory Committee on Rural Health.

Kelly's selection was announced in May by U.S. Sen. Dave Durenberger, who had recommended Kelly's appointment to the national advisory committee.

Kelly has played a leadership role in rural health issues in a number of state and national organizations, including the American Medical Association and the Minnesota Medical Association.

## IN GOOD HEALTH

Minnesota has one of the lowest heart-attack death rates in the nation, according to a recently released Centers for Disease Control study.

The study revealed that Minnesota men and women have the 39th lowest death rates in the nation. Among men 35 to 64, Minnesota's heart attack death rate is the 35th lowest in the nation; among women in this state, it's 43rd lowest.

Not all Midwestern states fared as well: Michigan, Ohio, and Indiana have relatively high death rates due to heart attack, while Minnesota, Wisconsin, and North and South Dakota have lower rates.

The report's authors suggest people in the lower death-rate states probably smoke less, exercise more, and may be more aware of their blood-cholesterol levels. Good medical care also may be a factor.

The study, based on 1985 data, made adjustments to the rankings so states with more elderly people weren't penalized for a higher risk of heart attack because of age alone.

## AREA'S FIRST ANGIOPLASTY CARE UNIT

Abbott Northwestern Hospital, which expects to perform more than 1,000 coronary angioplasties this year, has opened the area's first angioplasty care unit—one of only a few hospital units of its kind in the U.S.

The new unit will offer patients continuity of care throughout their hospitalization, with advanced equipment and specially trained staff. These factors will reduce length of stay to two days for an uncomplicated procedure. Prior to the opening of this unit, angioplasty patients stayed three to four days, moving to several units during their pre- and post-operative hospitalization, according to the hospital.

## MEDICARE FUND PREDICTIONS

Medicare's hospital insurance program received its annual check-up by its board of trustees, who predicted that, current conditions remaining about the same, the program will still be around in 2005. This is a healthier prognosis than last year, when the trustees predicted its trust fund would be exhausted by 2002. Each year, the board of trustees gives a four-tiered evaluation, ranging from pessimistic to optimistic, with two intermediate levels in between. This year's predictions for when funds would run out ranged from 1999 to 2044.

## POOR CARE FOR POOR

Although poor people are often most susceptible to disease, because they often lack adequate health insurance, they often don't receive proper health care, a report in the May 20 *JAMA* said. The authors of the report analyzed patterns of preventive care (e.g., blood pressure checks, cervical smears, glaucoma tests, clinical breast exams) received by middle-aged women, with particular attention to health insurance coverage. "Lack of insurance was most prevalent among socioeconomically disadvantaged women at high risk for disease and was the strongest predictor of failure to receive screen tests," the study found.

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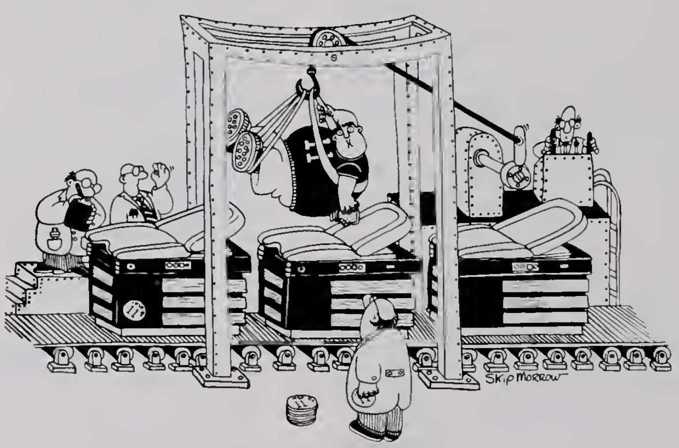

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**Wogensen** from page 404

REECE: *What does the group consider its major problems or major opportunities?*

WOGENSEN: The major problems are financial: getting appropriate reimbursement for their practice and attracting patients from competitors, including those in the Twin Cities. We're all fighting for patients, so we do have that kind of competition.

REECE: *The reimbursement rate is lower in Albert Lea than in the Twin Cities?*

WOGENSEN: Yes, in Minnesota there are two Medicare intermediaries, Travelers and Blue Cross. In many areas, such as Albert Lea, the Blue Cross reimbursement rate is lower than Travelers'. But, regardless of the carrier, metropolitan reimbursement is higher than rural reimbursement. Yet, in Albert Lea, we're expected to provide the same basic quality of care as the Twin Cities.

**Metropolitan reimbursement is higher than rural reimbursement. Yet, in Albert Lea, we're expected to provide the same basic quality of care as the Twin Cities.**

REECE: *In Minneapolis the monthly payments to Medicare patients is $258 a month, in St. Paul it's $253, and in Albert Lea it's $139 a month. The lower Medicare payment may be partially offset by the low HMO market penetration. After all, the fee-for-service plans usually pay more.*

WOGENSEN: Southern Minnesota has not been penetrated much by the HMO market. We went into one PPO affiliation about two years ago. PPO patients make up only about one percent of our business. And with HMOs pulling out of the rural and elderly market, HMOs don't seem likely to increase much here.

REECE: *What is the major form of payment here?*

WOGENSEN: Blue Cross is probably the major payer, but there are a lot of different indemnity insurances.

REECE: *Another urban-rural difference, I understand, is that you have difficulty recruiting subspecialists for your clinic and difficulty recruiting primary care doctors for your satellite clinics.*

WOGENSEN: Yes, it seems most family practice doctors don't like to go to the very small towns. Being a member of our larger group has helped because family physicians have more backup support. As far as specialists go, we could easily provide a good practice for a number of specialties in Albert Lea, but we are unable to attract them.

REECE: *And what are those specialties?*

WOGENSEN: ENT, dermatology, psychiatry, anesthesiology. We have recently attracted another general surgeon, an orthopedic surgeon, a podiatrist, and an ophthalmologist. But it took a great deal of effort to find those specialists.

REECE: *So, from the Albert Lea perspective, the doctor glut is overblown. In fact, a city man's glut may be a town man's shortage.*

WOGENSEN: There may be an over abundance of some of these specialties in the Twin Cities market. Maybe if they knew of the advantages of living in a small town and practicing with a multispecialty clinic, they might be more easily attracted.

The bottom line is still money. Although living expenses are significantly less, specialists probably can't make quite as much here as they can in a single-specialty group in the Cities.

REECE: *But on the other hand, they have a more pleasant life.*

WOGENSEN: And a wonderful place to bring up a family.

REECE: *And probably less stress.*

WOGENSEN: Definitely less stress, even if they practice by themselves. There's a urologist who's been practicing by himself for about 12 years and has as busy a practice as any urologist in the state. He seems to enjoy his life and practice and shows no visible signs of stress.

REECE: *Speaking of urology, let's divert the flow from others to yourself. Besides your duties as a pathologist, you're director of medical education for the Naeve Hospital and the clinic. As part of that, you arrange four outside lectures every month. Would you say there's any drop off of intellectual stimulus in the small town?*

WOGENSEN: No, I don't view Albert Lea as stagnant intellectually. Nor do I look upon myself as intellectually deprived. We have an excellent educational program, and continuing education is alive and well here.

REECE: *Many of the people you bring in to give these talks are from Rochester or the Twin Cities, are they not?*

WOGENSEN: They are, and some of them are from elsewhere in the country as well.

REECE: *I understand you keep the lectures on videotape so they're always available to those who can't attend the lectures but who want to see them.*

WOGENSEN: That has proved to be a valuable resource for our medical library and an easy way of listening to all the lectures, even if you can't be at the presentation.

REECE: *Your lectures have that home-delivered flavor, too. You don't have to import videotapes from remote corners of the country. You've also been active in the Minnesota Medical Association's Subcommittee on Continuing Education. Has that been valuable to you?*

WOGENSEN: The committee's work and our annual meting have been beneficial in showing me how to put on programs that are worthwhile and that ultimately improve patient care.

REECE: *You're also head of the library at the hospital.*

WOGENSEN: That's another education hat I wear.

REECE: *Let's see. You are a pathologist, the principal medical educator at the hospital, and the head librarian. These duties must keep you fully occupied.*

WOGENSEN: My pathology duties alone keep me fully occupied. The others I just squeeze in. But I enjoy everything I do. In a small town you have to be prepared to divide yourself into multiple people and assume many roles.

REECE: *So you have to be versatile, flexible, and open minded.*

WOGENSEN: And political. I'm involved with every aspect of not only medical life, but of town life as well, and how they fit together.

REECE: *I would imagine you also have to have business sense. Tell us about how the economics of Naeve Hospital have changed since you came here in 1981.*

WOGENSEN: Much of it is a reflection of what's happened all over the country. We have decreasing hospital stays, a decrease in revenue due to DRG payments, and increases in outpatient medical care. Because of that, the hospital has diversified into different programs in the outpatient arena. The clinic has done the same thing. It's all part of the new competitive environment of medical care in the small town, as well as in the cities.

REECE: *So the revenue streams have been diverted from the inpatient arena to the outpatient arena.*

WOGENSEN: A lot of revenues have. In an area like ours, there's a real need for the inpatient and outpatient providers to work together. And that's something that we're doing and still working on. Personally, I'm spending much more time on the administrative aspects of pathology than I used to. The administrative aspects have to do with economics.

REECE: *Explain.*

WOGENSEN: We have to run a little tighter ship. There's not as much money in the capital budget. We have to make sure that our quality is upheld at the same level that it always was. That's harder to do with less money, which also means less personnel. One must become more efficient, and it takes better management to do that.

REECE: *You're unique in that you're a member of the Albert Lea Regional Group and you are also in the hospital. Is that a delicate balancing act?*

WOGENSEN: Because I'm in charge of two laboratories that sometimes work together and sometimes compete, I encounter conflicts and sensitivities. But for the most part, I find the congruences between inpatient and outpatient work are greater than the conflicts. Pathology and other spe-

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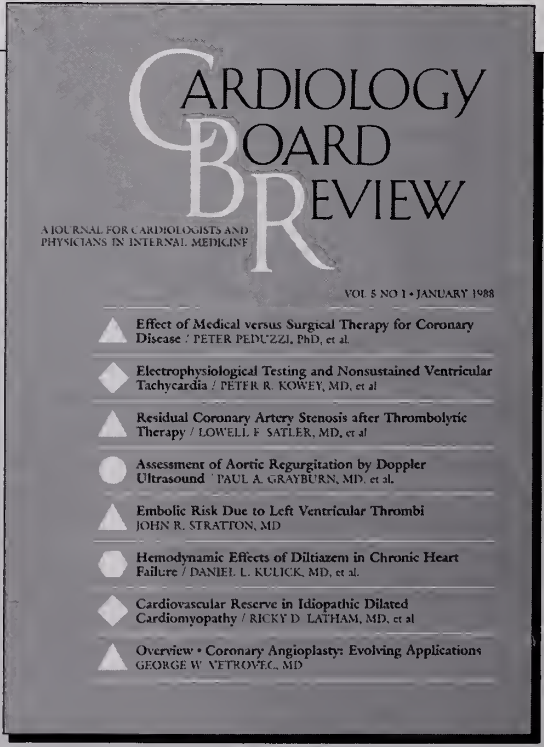

CARDIOLOGY BOARD REVIEW
A JOURNAL FOR CARDIOLOGISTS AND PHYSICIANS IN INTERNAL MEDICINE
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Effect of Medical versus Surgical Therapy for Coronary Disease / PETER PEDUZZI, PhD, et al.
Electrophysiological Testing and Nonsustained Ventricular Tachycardia / PETER R. KOWEY, MD, et al
Residual Coronary Artery Stenosis after Thrombolytic Therapy / LOWELL F. SATLER, MD, et al
Assessment of Aortic Regurgitation by Doppler Ultrasound / PAUL A. GRAYBURN, MD, et al.
Embolic Risk Due to Left Ventricular Thrombi / JOHN R. STRATTON, MD
Hemodynamic Effects of Diltiazem in Chronic Heart Failure / DANIEL L. KULICK, MD, et al.
Cardiovascular Reserve in Idiopathic Dilated Cardiomyopathy / RICKY D. LATHAM, MD, et al
Overview • Coronary Angioplasty: Evolving Applications / GEORGE W. VETROVEC, MD

*Journals reviewed include: *Circulation, American Heart Journal, Journal of the American College of Cardiology, British Heart Journal, Chest, The American Journal of Cardiology, The New England Journal of Medicine, Annals of Internal Medicine, American Journal of Medicine*, and *The Journal of the American Medical Association.*

cialties used to be involved mostly in hospitals, but there's more and more need for them in a multispecialty clinic site. The clinic laboratory performs just as much lab work as the hospital. So there's just as much need for good management and quality control efforts there as in the hospital.

REECE: *Let's talk about Naeve Hospital and some of its efforts to diversify and innovate. What is your 100-bed hospital doing to compete and to boost its revenues? What new programs are you embarking upon?*

WOGENSEN: Naeve Hospital enjoys a broad support base as a subsidiary of Naeve Health Care Association, which is expanding its chemical dependency treatment centers in the international market, expecially in Europe. The hospital itself has recently opened a wellness center, an elder care center, which does transitional care, respite care, and day care for the elderly.

REECE: *"Respite care" is a new term for me. What is respite care?*

WOGENSEN: That's a program targeted at seniors citizens who are being cared for by their families rather than in nursing homes. In our program, the families can get a week or two off for rest or vacation. We care for the family's elderly and then return them to the home.

REECE: *Then, it is respite for the families of the elderly, not the elderly themselves. That's an extremely useful and thoughtful idea for those families.*

*In our tour around the hospital today I saw a six-unit dialysis unit that was fully equipped and brand-spanking new. The quality and newness of the technology and the competence of the technologists impressed me.*

WOGENSEN: We just recently upgraded the dialysis unit from a two-chair unit to a six-chair unit. We have more dialysis patients all the time. This is an example of technology that is very important in the rural setting because it can be a great inconvenience for these dialysis patients to have to go 100 miles for dialysis three times a week. We have a lot of new technology here. Radiation therapy is done here, which is beneficial for people who need regular radiation therapy treatments.

REECE: *What about oncology treatment? Is chemotherapy given here?*

WOGENSEN: All chemotherapy is given here. Oncology consultants come to our town twice a month to see cancer patients and prescribe therapy. These patients are also cared for by local physicians.

REECE: *Where do your traveling consultants come from?*

WOGENSEN: Various places—most of them from the Twin Cities. Neurologists all come from the Cities, and we have four ENT consultants.

REECE: *Your hospital also has a new woman's center?*

WOGENSEN: The new woman's center is about to open. It will change the concept of labor and delivery quite a bit from what it has been. It's a modernization of the obstetrics area. We're also putting together all the different kinds of medical care for women specifically. Plus, a hospice unit opened three years ago, and the hospital is also very involved in home health care.

REECE: *In the Cities the "providers," that is, the hospitals and doctors, have been mutually bludgeoned by the battering rams of competition. In their weakened condition, hospitals and physicians are being forced to join together in joint ventures. Are there joint ventures here between Naeve Hospital and the Albert Lea Regional Medical Group. If so, what are they?*

WOGENSEN: Yes, we are participating in joint ventures because we find we can provide a better program if we take the capital and skills of both areas and put them together. One joint venture that will open up this summer is a physical medicine and rehabilitation center. The center will staff two physicians dedicated mostly to back care and occupational medicine, as well as two orthopedic surgeons, a physiatrist, about a dozen physical therapists, and two occupational therapists. The whole realm of physical medicine and rehabilitation is expanded. Another joint venture still in the works is a laboratory venture between the hospital and the clinic to form a separate for-profit corporation that will take advantage of the volumes of both areas.

**I'm involved with every aspect of not only medical life, but town life as well, and how they fit together.**

REECE: *In many ways, what's happening in the Cities is what's happening down here.*

WOGENSEN: Yes, but we're insulated from the effects of competition you have in the Cities.

REECE: *But you're not insulated from the DRGs.*

WOGENSEN: Most of our economic problems seem to derive from Washington, not from the Cities. There are a lot of reimbursement restrictions, which are compounded because we have a rapidly aging population, more so than in the Twin Cities.

REECE: *What percentage of your patients at the hospital are Medicare?*

WOGENSEN: In the laboratory it's about 65 percent and probably about the same in the hospital.

REECE: *You've been in Albert Lea now for seven years. Are you satisfied? Do you find this a pleasant and stimulating place?*

WOGENSEN: It's a good place to practice. It's a stimulating, challenging, dynamic practice. It's also satisfying. I think I feel closer to the other doctors and to the patients and to the rest of the community than I did while I was in the Cities. ■

# CME IN MINNESOTA

## Provided through the MMA Medical Education Subcommittee on CME Resources

For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; (612) 378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

## JULY 1988

7-8 **Advanced Trauma Life Support Seminar** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

10-19 **Queen Elizabeth 2 and London** North Central Medical Conference; Aboard the Queen Elizabeth. CONTACT: Harold Brunn, North Central Medical Conference, 1845 Hampshire Avenue, Suite 200, St. Paul, Minnesota 55116; (612) 698-1888.

15-27 **Italy and the Swiss Alps** North Central Medical Conference. CONTACT: Harold Brunn, North Central Medical Conference, 1845 Hampshire Avenue, Suite 200, St. Paul, Minnesota 55116; (612) 698-1888.

20 **Hematology - CME** Mesabi Regional Medical Center; Mesabi Regional Medical Center, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746; (218) 262-4881, ext. 259.

JULY 29 - AUG 9 **Luxury Yachting on the French and Italian Rivieras** North Central Medical Conference; Aboard the Sea Goddess. CONTACT: Harold Brunn, North Central Medical Conference, 1845 Hampshire Avenue, Suite 200, St. Paul, Minnesota 55116; (612) 698-1888.

## AUGUST 1988

5-6 **General and Peripheral Vascular Laser Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

13-18 **First Annual HCMC Summar Conference** Hennepin County Medical Center/Hennepin Faculty Associates; Lindmeiers North Shore Lodge, Ontario, Canada. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2075.

16 **Cardiology—CME** Mesabi Regional Medical Center; Mesabi Regional Medical Center, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746; (218) 262-4881, ext. 259.

19 **Dermatology for the Primary Care Physician** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2075.

## SEPTEMBER 1988

15-16 **Eleventh Annual Trauma & Critical Care Conference** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2075.

16 **Regional Conference on Angioplasty** Abbott Northwestern Hospital; Radisson Plaza Hotel, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

21 **Dermatology—CME** Mesabi Regional Medical Center, Mesabi Regional Medical Center, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746; (218) 262-4881, ext. 259.

23 **Common Neurologic Quandaries for Primary Care** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2075.

30 **Medical Oncology for the Internist** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2075.

30 **Ethics Upper Limit: Health Care Resources in the '90s** St. Paul-Ramsey Medical Center; Earle Brown Center, St. Paul, Minnesota. CONTACT: Bonnie Young, St. Paul-Ramsey Medical Center, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

**30** **Guilt: Recognition, Understanding, Letting Go** St. Paul-Ramsey Medical Center; Earle Brown Center, St. Paul, Minnesota. CONTACT: Bonnie Young, St. Paul-Ramsey Medical Center, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

## OCTOBER 1988

**7-8** **Head Injury Conference, Acute Management and Rehabilitation** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

**10-11** **Advanced Trauma Life Support Seminar** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

**14** **Fifth Annual Geriatrics Conference** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

**18** **Infectious Disease** Mesabi Regional Medical Center; Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota; (218) 262-4881, Ext. 259.

**19-22** **Twenty-second Annual Orthopaedic & Trauma Seminar** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

**21** **Second Annual Cardiology Conference** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

**21-22** **Front-line Neurology: Primary Care Management of Patients with Neurological Problems** Abbott Northwestern Hospital; Radisson Plaza Hotel, 35 South 7th Street, Minneapolis, Minnesota. CONTACT: Tim Schuh, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

**20-21** **Emergency Medicine for Primary Care Physicians—Fifth Update** St. Paul-Ramsey Medical Center; Holiday Inn East, I 94 and McKnight Road, St. Paul, Minnesota. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

**27-28** **HCMC Medical Examiner Annual Forensic Science Seminar** Hennepin County Medical Center/Hennepin Faculty Associtès; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

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| | September 30 | Ethics at the Limit: Health Care Resources in the 90's, St. Paul |
| | September 30 | Guilt: Recognizing, Understanding, Letting Go, St. Paul |
| | October 5-7 | Pulmonary Function Testing Workshop, St. Paul |
| | October 11 | Nursing and AIDS: Beyond the Basics, St. Paul |
| | October 20-21 | Fifth Update: Emergency Medicine for Primary Care Physicians, St. Paul |
| | November 17-19 | Sixth Update: Primary Care Medicine, St. Paul |
| | December 1-3 | Annual Cardiopulmonary Medicine Conference, St. Paul |
| **1989** | February 10 | Burn Update, St. Paul |
| | March 1-3 | Seventh Annual Critical Care Update, St. Paul |
| | March 10 | Tenth Annual Occupational Medicine Update, St. Paul |
| | March 16-17 | Family Practice Today, St. Paul |
| | April 5-7 | Pulmonary Function Testing, St. Paul |
| | April 6-7 | Ob/Gyn Update, St. Paul |

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**Pediatrician** wanted to join a 40-physician multispecialty group in northern suburbs of Minneapolis. The appropriate candidate will join the current Pediatric Department of four physicians in a very busy practice. Please address inquiries to: Bradford McKane, Comprehensive Medical Care, PA, 9055 Springbrook Drive, Coon Rapids, Minnesota 55433 or phone (612) 780-7032. (R)

**Family Physician** to join group of board certified family practitioners and one board certified general surgeon. Liberal vacation and education allowances. Competitive salary first year with incentive bonus and full membership after one year. Blue Earth is a community of 4,000 in southern Minnesota with a drawing area of 25,000. 43-bed hospital with adjoining clinic facilities. Complete ancillary support including anesthesiology, radiology, and pathology. Excellent opportunity for an aggressive young family physician. Please contact: Thomas E. Watts, M.D., Blue Earth Medical Center, Ltd., 520 South Galbraith, Blue Earth, MN 56013, Phone: (507) 526-7371, Personal Phone: (507) 526-3177; Marjeane Werner, Clinic Administrator, Phone: (507) 526-7371, Personal Phone: (507) 854-3682. (R)

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**Family Practitioner, General Internist, and General Surgeon** to join 8-physician clinic in Cloquet, Minnesota, a community of 14,000 (30,000 service area), located 20 minutes from Duluth-Superior. The clinic facility is located one block from modern, well-equipped hospital. Cloquet enjoys a stable economy (forest products). Additionally, our community is noted for its excellent school system. First-year salary guarantee, paid malpractice, health and disability insurance, vacation, and study time. Contact: John Turonie, Administrator, Raiter Clinic, Ltd., 417 Skyline Boulevard, Cloquet, Minnesota 55720; (218) 879-1271. (R)

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**Family Physician** wanted to join four physicians, one nurse practitioner, FP group practicing in two offices in Pine River and Pequot Lakes. Competitive salary. No OB. No HMOs. Rural area with outdoor recreational opportunities. Rotate hospital visits, emergency call; adequate free time. Call or write: C.R. Pelzl, M.D., Pine and Lakes Clinics, PO Box 88, Pine River, Minnesota 56474; (218) 587-4416. (R)

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**New Ulm, Minnesota:** Family practice physician BC/BE for multispecialty clinic of 18 board-certified physicians in family practice, internal medicine, pediatrics, orthopedics, general surgery, OB/GYN, radiology, and emergency medicine. Associate physician regular visits in neurology, oncology, otolaryngology, and pathology. Other specialties in town are ophthalmology and urology. Historic city of 15,000 located 90 minutes south of Minneapolis metro area, 30 minutes from Mankato State University. Well-balanced economy between Kraft, 3M, Pantasote, AMPI, and agribusinesses. Three excellent school systems in addition to a college. Contact: Robert Stevens at the New Ulm Medical Clinic, PO Box 667, New Ulm, Minnesota; (507) 354-4101. 8-10/88

**Family Physician** needed to join group of five family physicians in St. Peter, Minnesota, population 9,000, located one hour south of Minneapolis. Contact: Doug Olmanson, M.D., or D.A. Nygard, Administrator, St. Peter Clinic, Ltd., 622 Sunrise Drive, St. Peter, Minnesota 56082; (507) 931-2110. 6-8/88

**Internal Medicine:** Carroll Medical Center is seeking a general internist to join four family practitioners and one general surgeon. Carroll Medical Center was established in 1928 and has an excellent reputation in this west central Iowa community of 10,000. We have a newer 100-bed hospital. Reasonable call schedule. First-year guarantee, paid malpractice insurance and other benefits including 4-week vacation and 2-week CME time. Please call or mail CV to: Jeffrey K. Larkin, M.D., 502 North Court Street, Carroll, Iowa 51401; (712) 792-1500. 6-8/88

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**Bemidji, Minnesota:** Excellent opportunities for well-trained physicians. We are seeking board certified/eligible physicians in orthopedic surgery, family practice, ophthalmology, OB/GYN, and otolaryngology to join a young 22-physician multispecialty group practice located in northern Minnesota. Clinic adjacent to modern, well-staffed and well-equipped hospital. Competitive salary guarantee plus incentive first year and excellent benefits. An excellent opportunity for a physician to enjoy practice in the center of hunting, fishing, and clean air. Please respond with CV to: C.C. Lowery, Administrator, Bemidji Clinic, Ltd., 1233 34th Street NW, Bemidji, Minnesota 56601; (218) 751-1280. (R)

**Physician** sought for ten-person multispecialty clinic. Financial package competitive. Outdoor hunting, fishing wonderland! Excellent lifestyle, practice, and opportunity. Interested individuals should contact: Nephtali Matta, Administrator, Medical Associates Clinic, 772 East Dakota, Pierre, South Dakota 57501; (605) 224-5901. 3-7/88

**Family Physician:** BC/BE to join 17-member multispecialty clinic in Worthington, Minnesota. 100-bed hospital. Level II nursery. Need interest in primary OB. OB/GYN and peds support available. Beginning salary $70,000-90,000 depending on experience. Benefits include paid malpractice, health, life and disability insurance. Profit sharing and liberal vacation also. Contact: D. Anderson, M.D., or J. Sieve, Administrator, Worthington Medical Center, 508 10th Street, Worthington, Minnesota 56187; (507) 372-2921. 3-7/88

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**Family Physician:** Dynamic 13-physician, 3-office, single-specialty practice in northwest Minneapolis suburbs seeking additional associate, BE/BC; OB available. Competitive salary, full benefits, reasonable call and hospital rounds schedule. Contact: Dr. Ken Kephart, Northwest Family Physicians; (612) 476-6776. (R)

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**Minnesota/Family Practice** physician wanted to join 40-physician multispecialty group in northern suburbs of Minneapolis. The appropriate candidate will join the current 18 physicians. Please address inquiries to: Dr. Ronald Jankowski, 5300 153rd Avenue, Ramsey, Minnesota 55303, or phone (612) 427-7180 3-8/88

**Minnesota/Neurologist** physician wanted to join a 40-physician multispecialty group in the northern suburbs of Minneapolis. The appropriate candidate will join a very busy clinic. Please address inquiries to: Dr. Ronald Jankowski, 5300 153rd Avenue, Ramsey, Minnesota 55303, or phone (612) 427-7180. 3-8/88

**Minnesota/Internist** wanted to join a 40-physician multispecialty group in northern suburbs of Minneapolis. The appropriate candidate will join the current two physicians. Please address inquiries to: Dr. Ronald Jankowski, 5300 153rd Avenue, Ramsey, Minnesota 55303, or phone (612) 427-7180. 3-8/88

**Obstetrician-Gynecologist:** Winter Park Memorial Hospital, a 301-bed, not-for-profit hospital located adjacent to Orlando, seeks two board-certified or board-eligible ob-gyns for immediate, hospital-based, salaried positions. State-of-the-art hospital with six birthing rooms and 24-hour anesthesia coverage. Excellent financial package for qualified physicians. Contact: Director of Medical Staff Services, (407) 646-7495. 3-8/88

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**General Medicine:** Position available with Cancer Detection Center at University of Minnesota. Clinic focus is on health risk screening and assessment. Hourly wage. Part-time flexible hours. No weekends. No call. Current Minnesota license required. For more information, call/write: Dr. Victor Gilbertsen, Director, Box 99, University of Minnesota Hospitals, Minneapolis, Minnesota 55455; (612) 625-6970. *3-8/88

**Medical Practice Opportunity:** Seeking highly qualified and motivated family/general practice physician for predominantly agricultural community located in northeastern South Dakota. Modern clinic building available next door to our 21-bed acute-care hospital. Guaranteed income for the first year between $80,000 and $90,000. First-year malpractice insurance, relocation expenses, and free clinic use are part of the package. Specialty physicians available 25 miles east in Aberdeen. Excellent hunting and fishing. Position available immediately. Contact: Ken Trammell, Administrator, Ipswich Community Hospital, Box 326, Ipswich, South Dakota 57451; 1-605-426-6011. 3-8/88

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**Ten-person Multispecialty Clinic** seeking pediatrician and general surgeon. Financial package competitive. Outdoor hunting, fishing wonderland! Excellent lifestyle, practice, and opportunity. Interested individuals should contact: Nephtali Matta, Administrator, Medical Associates Clinic, 772 East Dakota, Pierre, South Dakota 57501; (605) 224-5901. *3-8/88

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**Family Practice:** Marshfield Clinic is seeking BE/BC family practitioners to join its expanding department in Marshfield. The department is currently staffed by five family practitioners with plans to add three additional members. With the exception of obstetrics, which is done by staff obstetricians, the practice offers a full range of inpatient and outpatient services. Full specialty consultation is readily available in-house. Our community of 20,000 offers strong economic stability combined with exceptional recreational, cultural, and educational opportunities. We offer a current starting salary up to $85,000 with salary in 2 years up to $110,000. Fringe benefit package outstanding. Send CV and references to: David L. Draves, Department of Administration, 1000 North Oaks Avenue, Marshfield, Wisconsin 54449; or call collect (715) 387-5376. *1-7/88

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**General Internist:** Marshfield Clinic, a 260-physician multispecialty group practice, is seeking BE/BC general internal medicine specialists to join its expanding department in Marshfield, Wisconsin. The department is currently staffed by 23 general internists with immediate plans to add seven or more additional members. The current call schedule is generally one night per month and one out of five weekends. An internal medicine residency program, University of Wisconsin Medical School affiliation, Medical Research Foundation, and ongoing new developments, i.e., Geriatrics Evaluation Center and walk-in medicine contribute to a very stimulating environment. Our community of 20,000 offers strong economic stability combined with exceptional recreational, cultural, and educational opportunities. We offer a current starting salary up to $85,000 with salary in two years up to $110,000. Fringe benefit package outstanding. Send CV and references to: David L. Draves, Department of Administration, 1000 North Oak Avenue, Marshfield, Wisconsin 54449; or call collect (715) 387-5376. *1-7/88

**GP, Neurologist, Orthopedist, Osteopath, Pain Specialist** needed as associate in well-established Midwest neurosurgical practice-pain center. Should be interested in treating acute and chronic headache and pain. Drawing area 300,000. IMMEDIATE OPENING. Call 1-800-255-2255 or send resume to: Headache & Pain Control Center, 700 Jennings, Sioux City, Iowa 51105. 1-7/88

**Family Practice Physician BE/BC** needed to provide primary outpatient care in a free-standing student health service with its own lab facilities for a student population of 11,000 at the University of Wisconsin-Eau Claire. Experience in sports medicine and/or gynecology preferred. Attractive salary and fringe benefit package, including malpractice insurance. Contact: Shelley Bratholdt, R.N.C., A.N.P., Director of Health Services, University of Wisconsin-Eau Claire, Eau Claire, Wisconsin 54701; (715) 836-4311. *1-7/88

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**Robert William James & Associates** has been providing executive and medical search services to client organizations since 1977. We are currently seeking physicians in virtually all specialty areas for health care clients throughout the country. Fees are assumed by our clients. All inquiries are handled in a professional and confidential manner. For further information, contact: John S. Shonyo, CPC, Physician Recruiter, Robert William James & Associates, 2360 North Broadway, Rochester, Minnesota 55904; (507) 285-9270. Offices located nationwide. *2-8/88

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**Emergency Medicine, Brainerd, Minnesota:** Need BC/BE EM or FP. Join a board certified emergency medicine MD and 18 MD multispecialty clinic. Two hours from Minneapolis. Beautiful lakes and trees; ideal for families. Call collect/write Curtis J. Nielsen, PO Box 524, Brainerd, Minnesota 56401; (218) 829-0354 or 829-4901. 3-9/88

**Minneapolis Suburban Pediatric Group** has opportunity for board-certified or eligible pediatrician. Busy, diverse practice with good compensation and fringe benefit package. Contact: Gene Inett, Administrator, Metropolitan Pediatric Specialists, P.A., 416 Southdale Medical Building, Edina, Minnesota 55435; (612) 920-9191. 3-9/88

**Board-Certified, Family Practice Physician** needed to join four family practitioners and one surgeon in clinic located 100 miles west of Twin Cities. Must be willing to handle OB and orthopedics. Excellent financial program and liberal vacation policy. Please call or write: Steven D. Medrud, M.D., Redwood Medical Center, 1100 East Broadway Street, Redwood Falls, Minnesota 56283; (507) 637-2985. 3-9/88

**Gastroenterologist** wanted to join a group of four general surgeons with an active practice in GI endoscopy in Duluth, Minnesota. First-year salary guarantee and excellent benefits with early partnership opportunity. For details send CV to: Duluth Surgical Associates, Ltd., North Land Medical Office Center, 1000 East First Street, Suite 203, Duluth, Minnesota 55805. 3-9/88

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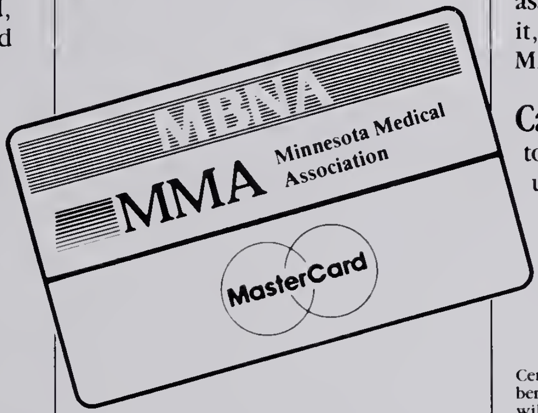

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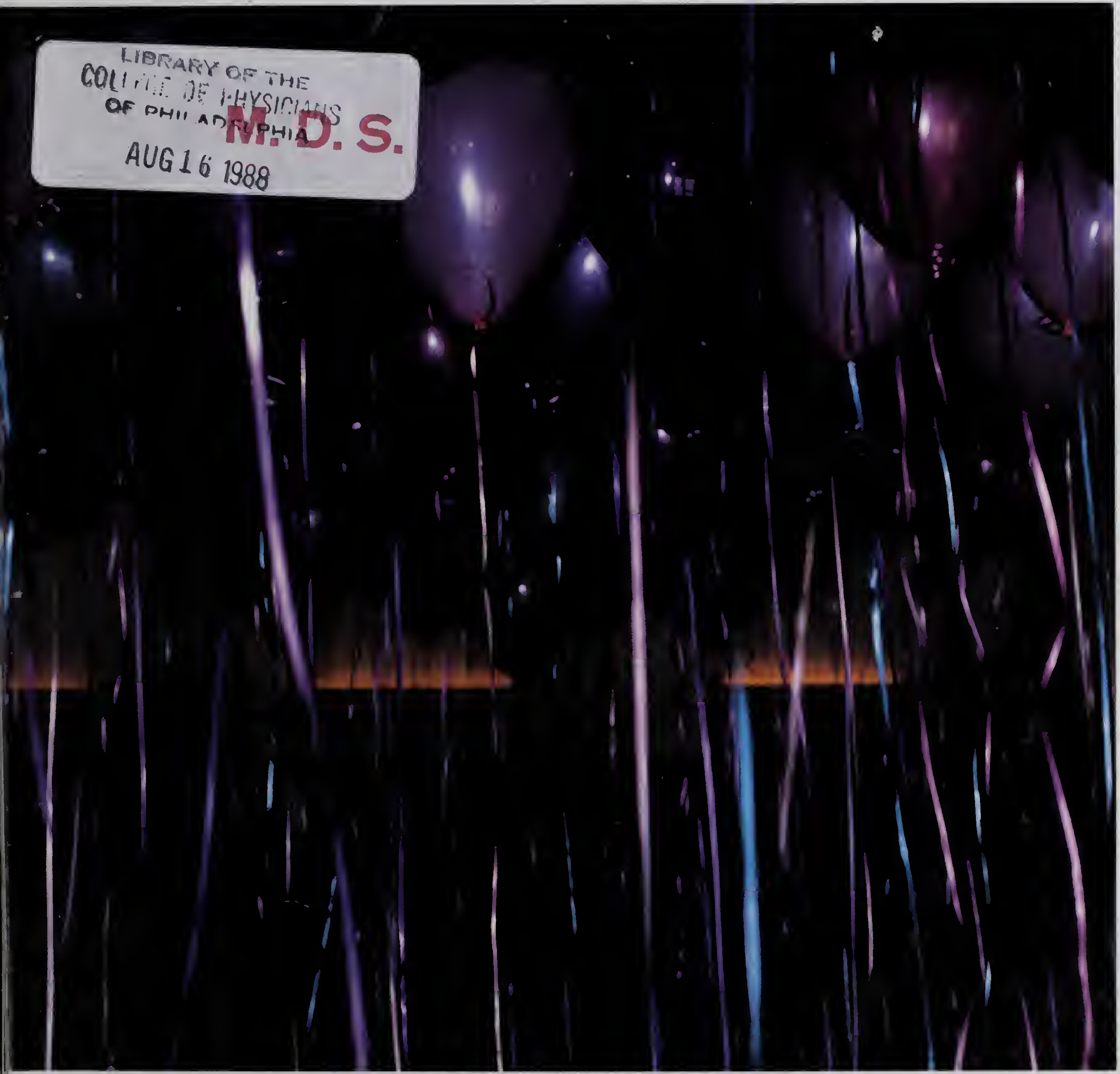

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A JOURNAL OF CLINICAL AND HEALTH AFFAIRS

# MINNESOTA MEDICINE

AUGUST 1988

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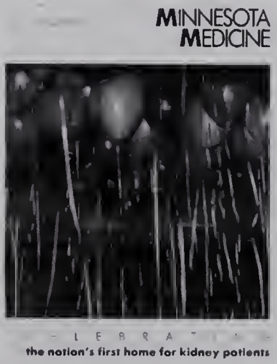

## Cover Photo

**CELEBRATE US** The balloons on this month's cover were photographed at the grand opening of the Beth Mensing Memorial Kidney House on May 25, 1988. Many balloons were released that day as symbols of hope and celebration for the nation's first kidney house (story on page 479).

Photograph by Paul Markert of Richard Peterson Photographers in Minneapolis.

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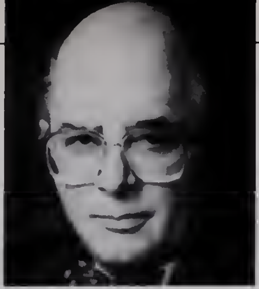


RICHARD L. REECE, M.D.

# EDITOR'S NOTEBOOK

## Back-to-Back Papers on the Back and Face-to-Face Interviews with the Faces

I have a confession to make: I have relapsed. I have used puns in three titles in this issue.

But I have a reason for this lapse of tone in this solemn medical journal. If you'll permit a short burst of verse, my reason is this:

***I have punned in my titles in the main.***
***Because changes bring so damn much pain.***
***These puns are my way to soften and disguise,***
***The powerful forces that are on the rise.***

Consider the puns in this title. When I say "Back-to-Back Papers on the Back," I'm referring to two papers on new treatments and their cost to treat lumbar pain. These papers are:

► "Lumbar Disc Herniation: How Does the Choice of Treatment Affect the Cost of Care?" by Stephen Kuslich, M.D., and his coworkers, of the Metropolitan Orthopaedic Associates, Ltd., and the Lumbar Spine Clinic and Resource Center, on surgical procedures performed at the Metropolitan Medical Center; and

► "Percutaneous Discectomy: A New Day-Surgical Method for Herniated Lumbar Discs," by Charles Ray, M.D., of the Institute for Low Back Care, Abbott Northwestern Hospital, and Sister Kenny Institute, on procedures performed in a one-day surgical unit at Abbott Northwestern.

I have chosen to publish these papers because they illustrate three phenomona:

1. Both frankly confront the problem of cost (both say, in essence, that new, less radical, more microscopic procedures reduce cost without compromising yield);

2. Both clearly illustrate the power of the new technology (a speaker I heard this week, the president of Baxter Travenol, would call percutaneous discectomy, or, if you prefer, microsurgical partial discectomy, a "plus-plus" technology, meaning it's not only better in its clinical results in certain cases but reduces costs); and

3. Both have commercial connotations (in today's competitive climate, if you've mastered a new and better technique to relieve a common complaint, such as low-back pain, you create a "center" or "institute" to capture a niche market, or you franchise your idea, as the Institute for Low Back Care has done in four other markets).

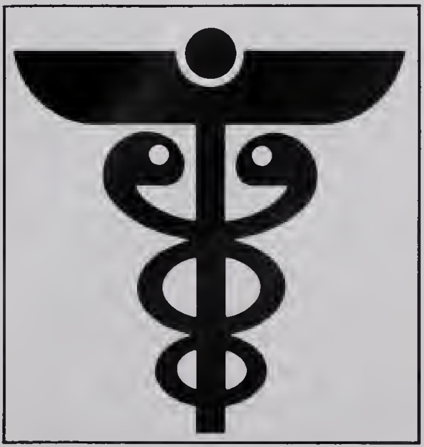
This combination of high technology, creation of organizations to treat common symptoms (low-back pain, headache, and dizziness), and commercial expansion of niche markets, bothers many doctors. But this combination is a powerful reality, and we ought to recognize it as such. I am not implying these two papers are "commercial." They are not. They rest on their scientific merit, but they raise commercial interprofessional issues, i.e., procedure-based specialists have technology- and income-based advantages over cognitive, hands-on physicians, that we might as well face squarely (or obliquely with puns).

All of which brings to mind a pun, which may get me out of the woods on the "back-to-back" problem.

A lawyer said in court: "You say your patient was injured in the woods." "No," said the doctor," I said he hurt in the lumbar region."

Now, on the "Face-to-Face" interviews. In the title, I say Carl Platou, president of Fairview Hospital systems, has a "fair view" of the future. He does, for he has bet well on the future in the past by placing his bets on fiscal conservatism, suburban location, and corporate church-based culture. His organization is growing, but the pain is this: With fixed dollars and declining hospital capacity, a zero-sum game is at work—one hospital system's growth comes at another's expense. I was gentle with Mr. Platou. I could have said he spoke only in Platoutudes. But, then again, he could have retorted by saying he buries my bad puns in the Carlsbad Caverns of his mind, where they're never heard from again.

Finally, in the interview with Richard Frey, M.D., I'm guilty of saying in the subtitle that Dick is constantly jumping from the "Freying pan into the fire." As you read the interview, you will see that this burning pun takes on the glow of a veiled compliment.



# A Hospital Executive with a Fair View of the Future

**REECE:** *Mr. Platou, you're currently president of Fairview Hospital and Health Care Services. How long have you held that position?*

**PLATOU:** I came to Fairview 36 years ago as an administrator. I've been in that position ever since. Titles become more elaborate as time goes by; I was the superintendent then.

**REECE:** *Fairview has certainly grown a lot since you came, hasn't it?*

**PLATOU:** Yes, dramatically.

**REECE:** *How big is the Fairview Hospital system right now? How many hospitals? What are your revenues? Give us an idea of the size of the enterprise.*

**PLATOU:** Fairview was one of the first multi-unit hospital systems in the United States. In fact, as a recent article in *Twin Cities* magazine pointed out, Fairview originated the multi-unit hospital system. We have grown to nine hospitals with revenues of about $300 million a year.

**REECE:** *Your system also, I believe, led the charge to the suburbs in the Twin Cities. Twenty-four years ago you were the moving force behind Fairview Southdale. About seven years ago you began the push for the Fairview Ridges Hospital in Burnsville. That hospital now has been open four years. Could you share with us your thinking about why you moved to the suburbs? What was your vision?*

**PLATOU:** Basically, it was the thinking of leadership within the Board of Trustees and the medical staff, people who recognized that the metropolitan area would expand. The philosophy of hospitals in the past has been that physicians and the public will always come to us. Institutional domination will always prevail. Our people didn't view the world that way. They thought it was more reasonable and more in the public inter-

**Platou** *to page 502*

**CARL N. PLATOU**

*Carl Platou, president of Fairview Hospital and Health Care Services, was full of good humor when I spoke with him. The Fairview board had just voted to give him an emeritus position for life, with a permanent office. The board had also agreed to provide funds to create a Platou scholarship in a University of Minnesota graduate program in health care administration.*

*Besides, the latest quarterly citywide data showed the Fairview Hospital system had gained market share at the expense of Carl Platou's rivals.*

*We talked in the Minneapolis Club library. As we chatted, passages from two books sprang to mind. The first passage came from Peter Drucker's 1968 book,* The Age of Discontinuity:

"In guerilla country, a handcar, light and expendable, rides ahead of the big, lumbering freight train to detonate whatever explosives might have been placed on the track. This book is such a "handcar." For the future is, of course, always "guerilla country" in which the unsuspected and the apparently insignificant derail the massive and seemingly invincible trends of today. Or, to change the metaphor, this book may be looked at as an "early-warning system," reporting discontinuities which, while still below the visible horizon, are already changing the structure and meaning of economy, polity, and society."

*Carl, you see, was a paratrooper in World War II. He placed explosives behind enemy lines. He has an ability to hang tough but act delicately.*

*The second passage was from a 1987 book,* The Innovators, *by William Davis of the American Management Association:*

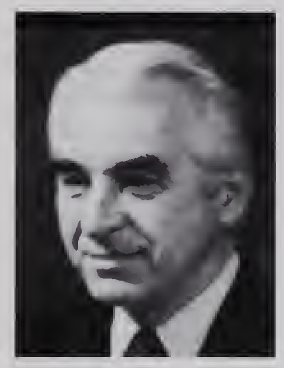
"The successful innovator is a doer—someone with imagination who can visualize the possibilities of an idea and who has a strong desire to see it realized in concrete form. He or she encounters considerable skepticism and even determined opposition. There may be discouraging setbacks. It takes a lot of nerve to press on despite all the doubts and uncertainties."

*To me this describes well Carl's determined and nervy fight to build the Fairview Ridges Hospital in Burnsville. Despite years of determined political opposition and uncertain profitability, Fairview Ridges stands today as the fastest growing hospital in the Twin Cities.*

*Here's the interview—the words of a detonator and innovator with a concrete vision of the future.*

# The Realities and Politics of Rationing Care, or Out of the Freying Pan and into the Fire

**REECE:** *Dr. Frey, you lived through the health care revolution in Minnesota. You've actively participated in that revolution. Among other things, you're a general internist, you've been active in medical politics at multiple levels, including being chairman of the board of the Minnesota Medical Association and being an AMA delegate. In addition, you're a physician executive. You started the Minnesota Health Care Network in 1982. That organization subsequently merged with Select Care, of which you're now the medical director. You were the driving force behind the Minnesota Coalition on Health. And finally, you're one of the members of the Governor's Commission for Legislative Reform in Minnesota. All of this in one career. For you, it seems to be out of Freying pans and into the fires.*



RICHARD J. FREY, M.D.

*I don't know what it is about Dick Frey. But somehow he always reminds me of Lee Iacocca.*

*Perhaps it's Dick's straight-up style, the fire in his eyes, the fearlessness of his opinions, the hard-hitting talk, the intensity of his feelings, his grasp of political realities, his sense of injustice, his impatience with obstacles, the quickness of his mind, or his urgency at getting to the guts of problems.*

*Whatever the reminders are, I admire Dick. Perhaps I admire him most for putting his time where his mouth is. Over the 23 years I've known him, Dick has been in all the arenas, getting bloodied, bruised, and sometimes gored, economically as well as politically. By all the "arenas," I mean the arenas of private practice, of medical politics, of public discourse, of organization building, and now, of state politics.*

*Unlike a lot of doctors, Dick knows life is political, and he is a political animal (and a fine physician). Physicians don't exist in this world in a hermetically sealed, vacuum-tight professional jar. And even those vacuous ones who think they do are surrounded by clear glass through which the public can see.*

*Why is this? Why do we live in this glass jar with people throwing stones at us? Why do doctors find themselves and their fees under constant public scrutiny, while many other professionals seem to do what they want and charge what they want. The difference, of course, is that the government, which after all represents the public, pays 45 percent of the nation's medical costs, and other powerful purchasers, who pay for most of the public, pick up most of the balance.*

*Dick knows this. He knows you have to go nose-to-nose with those who pay. He knows you have to prove you give bang for their bucks. He knows you have to be fair to those who give the care. He knows you have to shoot straight with those for whom you care. He knows those who represent the public are there to protect the public.*

*Dick knows it's worth it to try to make a difference, to get others to see the light, to expose the injustices and imbalances, to hammer out what the rules ought to be, and to go public with your message.*

*But I don't have to speak for him. He does that well himself. Here is Dick Frey talking straight.*

*Why don't I start with the question: How far have we come? What's happened in Minnesota these last ten years?*

**FREY:** Minnesota has had a leadership role in starting the fires that ignited the revolution. The Board of Trustees of the Minnesota Medical Association in the mid-seventies recognized that change was not only inevitable but if well-directed could reform the way medicine is practiced, while meeting the increasing demands of the large buyers. To that end, we created the Minnesota Cost Commission and after two years created the Minnesota Coalition on Health. Today, the coalition remains a force in the community and represents a joint effort of the providers and buyers of medical care, with good consumer representation.

The coalition has been on the cutting edge of change. It recognizes the frustrations of creating

*continued*

change because of political climates, public expectations, and all the things we're living with today. Further, we've stimulated pluralism in the community. Possibly, the pluralism in delivery systems is one of the driving forces that compromises physicians from a standpoint of economics and independence.

REECE: *Part of your thesis is that this compromise is self-inflicted. Would you elaborate on that thesis?*

FREY: I think that's true. We hear a tremendous amount of complaining among physicians about what the system has done, particularly concerning reimbursement for services. Yet, I maintain that physicians by and large have done this to themselves by participating in every type of payment scheme that enters the scene, either out of fear of losing a practice or a perception of losing a practice. What's happened is that physicians have not accumulated new patients; they've just found a mechanism to see their same patients at a reduced fee. And this is where we are today, in a price war. Physicians are being underpaid for their services in many situations, particularly in primary care.

REECE: *Also, if everybody joins everything, it's hard to differentiate the quality physicians and hospitals from the nonquality ones.*

FREY: That's also true. The buyer can go to any system and have the same doctors, so we're not talking about quality differentials. We're not talking about utilization patterns. We're talking price. So we have a price war. Physicians, particularly primary care physicians, are now trying to live on bargain-basement fees.

REECE: *So we've discounted ourselves into the basement. Another of your concerns is the future role of the primary physician, more specifically, the general internist. You've talked to the American College of Physicians about this. How can the general internist differentiate his services to survive this climate?*

FREY: The role of the general internist is in a state of flux. His survival is uncertain. We need fundamental restructuring of the general internist's training program if he is to survive in the narrow corridor between family practice and subspecialties in internal medicine. That corridor has been increasingly narrowed over the years. The general internist's survival is threatened unless we can expand his scope of services.

REECE: *Do you think primary care physicians are genuinely hurting economically or just crying wolf?*

FREY: There's no question primary care physicians are in pain. Too many plans and payment schedules pay the primary care physician 70 cents on the dollar while he's looking at a 60 to 62 percent overhead. The only way he can survive today is to have other noncontracted parts of his practice subsidize his contracted segments. As the contract segment grows, he approaches insolvency. Some of the large group practices are particularly threatened because of payment schedules that do not meet overhead and a reasonable living standard.

**Physicians, particularly primary care physicians, are now trying to live on bargain-basement fees.**

REECE: *You're also concerned about the interdisciplinary inequities—the differences in payment between the procedural and cognitive specialists. Would you comment on your feelings?*

FREY: These inequities had their birth with the beginning of third-party coverage. Today it's more evident as the procedural technologies grow and are rewarded economically at a level that is essentially embarrassing as it relates to the primary care physician's reward for cognitive services. There must be some adjustment in this area. The primary care physician is the portal of entry for patients into the system. He must be appropriately rewarded if he is expected to manage the care and the health care resources as he directs this patient. But it is unrealistic to think that new money will be coming into the system to pay the primary care physician more adequately. There must be some redistribution instead. And that will require reduction in price for procedural services with those resources transferred to the primary care area.

REECE: *So it's a reallocation of fixed dollars?*

FREY: Yes, and there will be more reallocation than infusion of new funds.

REECE: *Do you think one of the models might be the Harvard-AMA study of paying people based on resources consumed?*

FREY: One way to resolve this is in the marketplace with a competitive system, where the person who controls the portal of entry has the ability to negotiate for some of the procedural services. This isn't a very popular thought, particularly for those who are doing procedural services. I clearly understand that. Further, such gatekeeping strategies have a potential for serious abuse.

On the other hand, I'm not optimistic that the Harvard study done in conjunction with the AMA is going to give us the answers we want. It will address the interdisciplinary inequities in this relative fee schedule, but there will be problems with regionalization, and special-interest groups will be forceful in modifying the Harvard-AMA study. It is a step forward and perhaps a partial solution to our equity problems.

REECE: *I know you also feel that we will have to "ration" care in this era of fixed dollars. To do that, won't we have to harness the appetite for high-tech care?*

FREY: That's the most demanding issue we face today. I believe that care will have to be rationed. I'm cognizant that rationing of medical care is a terrible and unacceptable thought. However, we've rationed care for years in one way or another as we look for the most appropriate level of care for our patients. With the expanding technology, I feel we have no choice but to put more effort into eliminating all care that might be deemed inappropriate. There will have to be some rationing of the new technologies. It certainly appears that the large buyer and the government are unwilling to infuse a lot more capital into the system.

**REECE:** *But how do you ration?*

**FREY:** There are only two ways to ration care, and the physician isn't the answer to either one. I'm convinced that the physician will not ration care. The physician is the patient's advocate and quite properly so. He has no incentive to ration care. In fact, he has several disincentives, economic and otherwise, to ration care.

I believe there are two methods of rationing care. In one, the buyer rations the care because he has a very positive incentive to be a prudent purchaser. That's an economic rationing, and it can only be done with appropriate application of copays and deductibles into the insurance system. Dollar-one coverage is devastating because it does nothing to curb the consumer's appetite for care, and it makes the physician the policeman. The exception to this seems to be the closed-panel delivery system, which has a very different set of economic incentives and more common patterns of practice. The second method is access rationing through a national health service mechanism such as we have seen in Western European cultures.

**REECE:** *So the image of prepaid comprehensive care with rich benefits has to end?*

**FREY:** In my mind, it must end if we're going to have any type of "rational" rationing. If, on the other hand, we have created a situation where any significant application of copays and deductibles is interpreted as a take-away by a large bloc of our voting public, particularly the senior group, we will be unsuccessful in keeping health care resources within our dollar limits. The alternative will then be movement toward access rationing by way of central government control.

**REECE:** *Let's talk for a minute about the mechanisms of "managed care." I understand that you think managed care is a bit of a façade and that it doesn't always do what it is purported to do.*

**FREY:** The concept of managed care is excellent. The idea of identifying the efficient physicians, managing their care, uncovering the necessary data to measure performance, all of these are excellent concepts. The problem is that we do not have the tools to manage care. We lack performance data and outcome evaluation measurements—essential tools for the effective management of care.

We are making progress in measuring performance, and there is hope for managed care. But that hope can only be realized if the

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system is restructured so that we develop what I term a troika—a working relationship between the physician, the patient, and the payer. All three must have the proper incentives to seek the appropriate level of care. But we have left out the patient with dollar-one coverage, or close to it. When you remove the patient from the troika, you cannot have effective management of our health care resources. Demand for unlimited services, many times without positive outcome benefit, must be curtailed.

## There are only two ways to ration care, and the physician isn't the answer to either one.

REECE: *You worked for a long time for the Minnesota Coalition on Health, and you have been a leader in that movement. Does the coalition represent a troika?*

FREY: Yes, our coalition in Minnesota is an example of a troika. The consumer is well-represented, the large buyer is well-represented, and the providers of medical care, the physicians and the hospitals, are well-represented. The organization, however, has no clout. It's there to initiate change, but it's not on the front line, you might say, of delivering medical care or developing a system of delivery. It can be a powerful voice, however, in creating the strategies and tools for meaningful reform.

REECE: *I'm trying to envision how this troika would work structurally.*

FREY: Very simply, a prudent buyer is the key to seeking the appropriate level of care. The patient must be concerned about the decisions he makes in his request for care. He will be concerned if he has an economic interest in that decision. When the patient asks what is the best way for him to receive the care he needs and what is in his best economic interest, the physician is in a unique position to act as a consultant.

REECE: *If he has the information.*

FREY: If he has the information. And he will be more equipped than anyone else to counsel that patient about what the patient needs and how he should buy medical care. The payer, on the other hand, also has a very strong economic interest in controlling the costs. The payer, in consultation with the providers of medical care, can design benefit programs that address positive incentives for all three elements to look for that appropriate level of care.

REECE: *I know you've done a lot of thinking about this. Part of this thought comes out of your involvement with Minnesota Health Network and with Select Care. In that process, you've developed certain thoughts about the differences between HMOs and PPOs. Could you describe to us your managed care background and how these organizations have evolved?*

FREY: Minnesota Health Network has been an affiliate of MedCenters Health Plan, which gives us very close experience with the HMO. Again, managing this segment is extremely difficult because of the dollar-one coverage program and relatively open panel of physicians. The patients' expectations are high, the resources are limited, and the physician is put in a terrible squeeze trying to meet those expectations.

The PPO program looks more realistic, but that too needs constant restructuring. You read about very high enrollments in the competing PPOs. These enrollees really should be viewed as eligibles since they do not have to receive their care from physicians participating in the PPO. They have the option of going where they have gone in the past. Incentives driving them into individual PPOs are now economically weak. So, although the PPO enrollment figures are large, these people are not churning through the participants' offices.

REECE: *Are you saying that there might be much greater dollar turnover for 10,000 HMO patients as compared with 100,000 PPO patients?*

FREY: That's precisely right. The HMO patient is captured. He gets all of his care within the HMO, where the PPO patient has the option. He may or may not enter in. Under current circumstances most of them do not.

REECE: *As a result of the purchase pressures of the last five years, the pulling out of four major HMOs from 26,000 seniors, the dropping of PHP by St.Cloud Hospital and St. Cloud doctors, and the general feeling that we may have mandated insolvency, the governor has enacted a Commission for Legislative Reform. Who is on that commission, and what are you trying to do?*

FREY: The commission is represented by the leaders from the Senate and the House, those who have the responsibility for health care legislation, the commissioner of health and the commissioner of commerce, along with large corporate buyers and representatives from both the HMO industry and the private insurance industry, Blue Cross/Blue Shield, consumers, and providers. We are concerned about the recent happenings in St. Cloud and other areas around the country where groups have suddenly lost their health care coverage.

## To mandate Cadillac care and expect to buy it with Yugo prices is unrealistic.

The insurance products have changed a great deal. It becomes increasingly difficult to separate clear-cut HMO coverage and indemnity coverage. There's remarkable overlap between these products, and the jurisdiction over them is divided between the Department of Commerce and the Department of Health. The Commission for Legislative Reform has been given the charge of resolving this division.

Another of the commission's charges is to address a study of current and proposed regulation—to determine what impact it may have on the survival of health plans. It's unreasonable to mandate extensive coverage for say an HMO while restricting its resources. That's a recipe for insolvency, which is a great threat to all participants in the HMO. On the other hand, it is wrong to protect an HMO's enrollees and management and not worry about the potential insolvency of all the physicians and physician clinics in the HMO.

REECE: *So you're trying to prevent the promises from becoming greater than the system can deliver?*

FREY: Yes, we are. And we're looking at mandated benefits. We are recognizing more clearly than ever before that to mandate Cadillac care and expect to buy it with Yugo prices is unrealistic.

REECE: *Do you think the political superstructure of this state is facing up to the prospects of HMO insolvency?*

FREY: The senior group representation and the legislators, I think, recognize serious troubles exist. Our population has enormous expectations. Our ability to deliver more and more elaborate care is growing daily, and the resources to meet these expectations are not growing at the same rate.

REECE: *And yet we don't want to abandon anybody.*

FREY: We do not want to abandon anybody. We do not want anybody to fall through the cracks. We want a level playing field for our various insurers, be they HMOs or indemnity insurers. And yet there aren't enough dollars projected in the system to meet these expectations and demands. Which brings me back to my point—who's going to ration the care? ■

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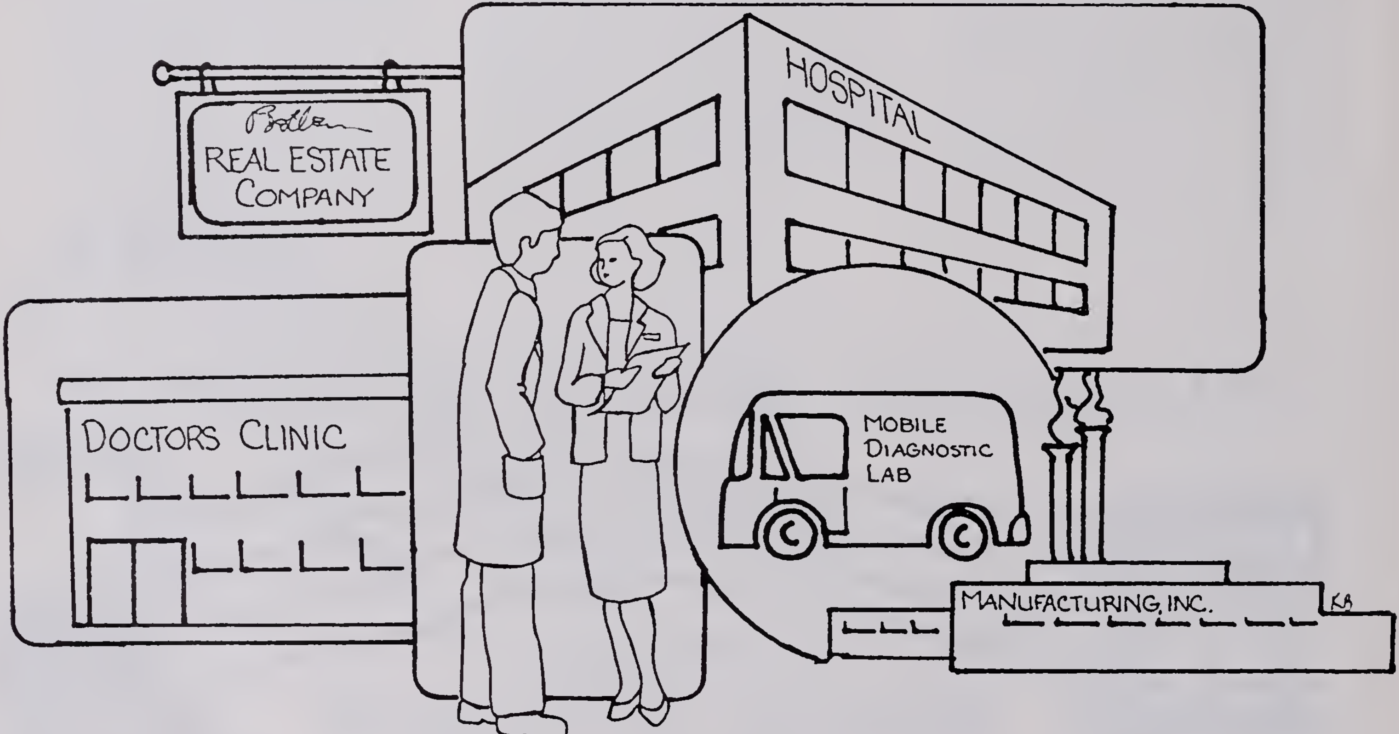

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# Starting a Pediatric Practice

## The Second Time Around

*Henry P. Staub, M.D.*

Ever wonder just how good the old days of medicine really were? I've started up in practice twice, once in the early 1950s and again in 1986. The economics of practice have changed vastly and are very difficult to cope with. But at the same time the medical aspects have changed, making the practice more effective, more humane, and more gratifying.

Look at the finances for a start: In 1955 only 42 percent of the money I earned went for expenses; 58 percent was profit. In 1986-87 expenses not only ate up 100 percent of my income for the first year, but I had to "lend" the practice almost $57,000 to cover the bills!

Today the financial picture looks more promising; now in its second year, my practice is in the black. The new practice became expensive since I employed a pediatrician to work with me a couple months after I started. The need to share call and responsibilities outweighed the added financial burden.

Today's hassles, frustrations, and economic risks are much more harrowing than those of 30 years ago. Every aspect of medical practice—from attracting patients to servicing medical equipment to dealing with insurers—is more complex.

My first practice began as a shoestring operation in 1950. I rented space above a drugstore for less than $100 a month. My wife sewed pads to cover two Montgomery Ward kitchen tables that I used for examining patients. My insurance premiums, including malpractice coverage, totaled $65 a year. Salaries were the major cost item, 46 percent of all expenses (Table).

The baby boom was in full swing in the mid-50s, and in just 10 years the practice had expanded to four pediatricians; we had built a new building, added up-to-date equipment, and hired a good support staff.

Then, in 1967, I accepted an academic appointment. Almost 20 years went by before I returned to private practice. This time around, getting started involved a great deal more than simply renting rooms over a drugstore. Progress in medical science and technology has been matched with profound changes in the economics of delivering pediatric care. Incorporating, negotiating a lease, choosing a computer service to do billing and to generate insurance forms, and ordering office furniture and equipment—all those time-consuming tasks—had to be done before I could see a single patient.

**Like all doctors these days, I have still another silent partner, the third-party payer.**

The set-up period was a comedy of errors. Two of the three otoscopes I ordered didn't work, and when the sales representative came to pick them up for repair, he took the one good instrument by mistake. The account number on my bank checks was misprinted. The typewriter arrived without an instruction manual. Our alphabetical filing system was missing the letter M. One telephone had a button that regularly popped up in the middle of conversations and disconnected the call. The copier jammed constantly. The first batch of measles/mumps/rubella vaccine came without the diluent. The scales I ordered were shipped without the posts for toddlers to hold on to. The manufacturer's representative shipped the posts promptly, but they arrived without the bolts to attach them to the scale. When the bolts arrived, the template to attach them was not quite accurate, and I had to hire someone to adjust it. The movers dropped the infant examining tables and bent them out of alignment; it took months to get replacements. We finally had to rent waiting-room furniture because the chairs and tables we had ordered did not arrive for six months.

We had to deal with the unique requirements of setting up a pediatrics office. We removed handles from cabinets to make them child proof, except to allow easy access to a drawer with crayons and paper and to the cabinet under the sink—a good place for toddlers to climb in and pretend to be hiding. We also placed blocks and toys there, since toys help relieve apprehension in young children. All medical equipment is kept out of sight. The ophthalmoscope, otoscope, or blood pressure cuffs, if left out in the open, serve as toys for the children and sometimes the parents. Normal curious youngsters can cause enough damage; a hyperactive child can be disastrous. One such child poured water into

TABLE
A three-decade contrast of a pediatric practice. Balance sheet for one year in the early '50s and for the first year of practice in the '80s.

| | 1955 | 1986-87 |
|---|---|---|
| Net receipts | $24,100 | $101,700 |
| Other income | | 7,500 |
| Expenses | | |
| Salaries | 4,875 | 83,900 |
| Insurance | 65 | 13,600 |
| Rent | 1,045 | 9,300 |
| Office Equipment | 0 | 12,500 |
| Medical and lab costs | 1,015 | 18,300 |
| Office Expense | 3,380 | 28,600 |
| Total Expenses | 10,380 | 166,200 |
| Balance | $13,720 | (-$57,000) |

the otoscope charging unit. Another youngster pulled the coiled rubber hose of the blood pressure unit across the room and snapped it at his mother.

Back in the 1950s, I'd had to deal with one company for telephone services. Now we deal with six: One installs lines and bills for local services, one sells us the telephones, one provides long-distance service, one lists us in the Yellow Pages, one lists us in the suburban Yellow Pages, and one provides answering service and a pager.

For the first frustrating month we saw on average one patient a day. Fortunately, things picked up, and after a year we were seeing 15 to 20 patients a day. We also had difficulty signing up insurance providers. There are many family practitioners in our area, and parents stay with their family physicians for well-baby and routine child care. But they will switch to a pediatrician if they perceive that their child has a problem, particularly a long-term problem, such as chronic diarrhea, asthma, an attention deficit disorder, a learning or behavior problem. Those conditions require numerous office visits, which can make the pediatrician look like an over-treater to insurance clerks.

And that was the source of my second problem: Local insurers were hesitant to place me on their rolls of "approved" or "participating" physicians because I appeared to be seeing too many ill and high-risk children. That problem still is not completely resolved.

Recently, I've had a large influx of youngsters from a nearby multi-specialty clinic that stopped seeing patients from one of the state's largest HMOs. The clinic was losing money treating these patients. As I accept them will I do any better? Business people joke that Uncle Sam's tax bite makes him their silent partner. Like all doctors these days, I have still another silent partner, the third-party payer. Twenty-three percent was discounted from the paid bills during our first year. Some insurers discount more, others less. One major HMO, after discounting the bill, withholds an added percentage as a reserve, with the deductions adding up to over 40 percent. Medicaid pays at a similarly low rate.

**Progress in medical science and technology has been matched with profound changes in the economics of delivering pediatric care.**

Some of the insurers have been very slow in paying, others pay within two weeks. More than two-thirds of payments come directly from insurance companies. Back in the '50s most patients paid their bills directly, and most were as prompt about paying the doctor as they were about paying the gas company. The few who didn't pay were usually in financial difficulty, and their bills typically were written off.

The cost of the first year of practice was $166,000 (Table). We collected $102,000, plus $7,000 from outside part-time work. This required an investment of $57,000 to cover the deficit.

Of the $166,000 spent, half went for salaries for one pediatrician and two assistants. The outlay of $12,550 to equip three examining rooms, a laboratory, and office space seemed reasonable. Insurance premiums for liability, health insurance for the employees, and malpractice insurance amounted to $13,600. We paid $9,300 for rent. Office expenses of $28,600 included telephone service, accounting, billing, postage and computer service, printing, office and chart supplies, society dues, staff meetings, and other items. Medical supplies, immunizing materials, and inhouse and outside laboratory costs totaled $18,300.

Our loss of $57,000 for the first year was partially covered by the accounts receivable. There will be no loss in the second year, although income will be limited.

The high cost of practice, coupled with a low and slow reimbursement, creates strong pressure to see many patients in as short a time as possible, the very opposite of what is essential to good pediatric practice—careful, sympathetic listening to parent and child and attention to the family's medical and psychosocial history. In the academic world, I tried to teach this to the medical students and residents. Now, I am dismayed to find out how difficult it is not to succumb to these economic pressures. Worse yet, prepaid and capitated medical care create a sometimes subtle, and other times blatant, pressure to do as little as possible for each child and patient.

Still, the clinical practice of pediatrics today is more satisfying and more enjoyable than it was 30 years ago. With better technology, tests, vaccines, and a much greater awareness of emotional needs we can do so much more for children. And I find that many of the young physicians with whom I have contact are highly motivated and superbly trained and skilled.

**Still, the clinical practice of pediatrics today is more satisfying and more enjoyable than it was 30 years ago.**

One thing is certain, starting over in practice after all these years has made me understand and experience the tremendous changes in the economics of pediatrics. I don't feel much nostalgia for the good old days of the '50s with its housecalls, the indiscriminate use of penicillin shots, or the measles and polio epidemics, and although the cost of progress has been high, pediatrics is as fascinating and satisfying as it has ever been.

## Acknowledgment

For the invaluable help given to make this practice a reality, I want to express my appreciation to Drs. Kim S. Hayday and Daniel S. McLellan; to our attorney, Andrew J. Mitchell, Esq.; to our accountant, Mr. A. Froehlich; and to our medical assistants, Ms. Holly Haag and Ms. Hope Robinson.

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*Henry Staub is in pediatric practice with Daniel S. McLellan, M.D., in Fridley, Minnesota. He started in pediatric practice in Minneapolis in 1950 after graduating from the University of Illinois School of Medicine and following his pediatric residency at Hennepin County Medical Center and the University of Minnesota.*

*Dr. Staub held full-time academic appointments from 1967 to 1983 at the University of Minnesota, the State University of New York at Buffalo, and at Marshall University in Huntington, West Virginia.*

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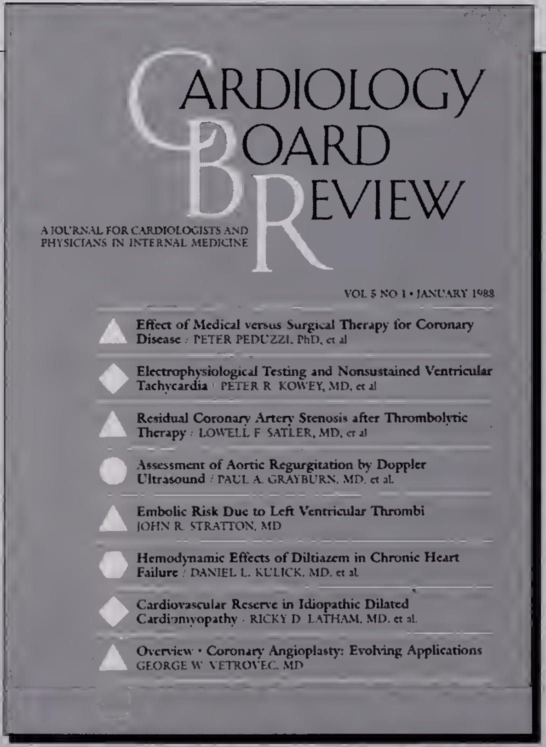

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### INDICATIONS AND USAGE

Cipro® is indicated for the treatment of infections caused by susceptible strains of the designated microorganisms in the conditions listed below

**Lower Respiratory Infections** caused by *Escherichia coli, Klebsiella pneumoniae, Enterobacter cloacae, Proteus mirabilis, Pseudomonas aeruginosa, Haemophilus influenzae, Haemophilus parainfluenzae*, and *Streptococcus pneumoniae*

**Skin and Skin Structure Infections** caused by *Escherichia coli, Klebsiella pneumoniae, Enterobacter cloacae, Proteus mirabilis, Proteus vulgaris, Providencia stuartii, Morganella morganii, Citrobacter freundii, Pseudomonas aeruginosa, Staphylococcus* aureus (penicillinase and nonpenicillinase-producing strains), *Staphylococcus epidermidis*, and *Streptococcus pyogenes*

**Bone and Joint Infections** caused by *Enterobacter cloacae, Serratia marcescens*, and *Pseudomonas aeruginosa*

**Urinary Tract Infections** caused by *Escherichia coli, Klebsiella pneumoniae, Enterobacter cloacae, Serratia marcescens, Proteus mirabilis, Providencia rettgeri, Morganella morganii, Citrobacter diversus, Citrobacter freundii, Pseudomonas aeruginosa, Staphylococcus epidermidis*, and *Streptococcus faecalis*

**Infectious Diarrhea** caused by *Escherichia coli* (enterotoxigenic strains), *Campylobacter jejuni, Shigella flexneri*,* and *Shigella sonnei** when antibacterial therapy is indicated

*Efficacy for this organism in this organ system was studied in fewer than 10 infections

Appropriate culture and susceptibility tests should be performed before treatment in order to isolate and identify organisms causing infection and to determine their susceptibility to ciprofloxacin Therapy with Cipro® may be initiated before results of these tests are known, once results become available appropriate therapy should be continued As with other drugs, some strains of *Pseudomonas aeruginosa* may develop resistance fairly rapidly during treatment with ciprofloxacin Culture and susceptibility testing performed periodically during therapy will provide information not only on the therapeutic effect of the antimicrobial agent but also on the possible emergence of bacterial resistance

### CONTRAINDICATIONS

A history of hypersensitivity to ciprofloxacin is a contraindication to its use. A history of hypersensitivity to other quinolones may also contraindicate the use of ciprofloxacin

### WARNINGS

CIPROFLOXACIN SHOULD NOT BE USED IN CHILDREN OR PREGNANT WOMEN The oral administration of ciprofloxacin caused lameness in immature dogs Histopathological examination of the weight-bearing joints of these dogs revealed permanent lesions of the cartilage Related drugs such as nalidixic acid, cinoxacin, and norfloxacin also produced erosions of cartilage of weight-bearing joints and other signs of arthropathy in immature animals of various species (SEE ANIMAL PHARMACOLOGY SECTION IN FULL PRESCRIBING INFORMATION)

### PRECAUTIONS

*General.*

As with other quinolones, ciprofloxacin may cause central nervous system (CNS) stimulation, which may lead to tremor, restlessness, lightheadedness, confusion, and very rarely to hallucinations or convulsive seizures Therefore, ciprofloxacin should be used with caution in patients with known or suspected CNS disorders, such as severe cerebral arteriosclerosis or epilepsy, or other factors which predispose to seizures (SEE ADVERSE REACTIONS).

Crystals of ciprofloxacin have been observed rarely in the urine of human subjects but more frequently in the urine of laboratory animals Crystalluria related to ciprofloxacin has been reported only rarely in man, because human urine is usually acidic. Patients receiving ciprofloxacin should be well hydrated, and alkalinity of the urine should be avoided The recommended daily dose should not be exceeded Alteration of the dosage regimen is necessary for patients with impairment of renal function (SEE DOSAGE AND ADMINISTRATION SECTION IN FULL PRESCRIBING INFORMATION)

*Drug Interactions*

Concurrent administration of ciprofloxacin with theophylline may lead to elevated plasma concentrations of theophylline and prolongation of its elimination half-life This may result in increased risk of theophylline-related adverse reactions. If concomitant use cannot be avoided, plasma levels of theophylline should be monitored and dosage adjustments made as appropriate

Antacids containing magnesium hydroxide or aluminum hydroxide may interfere with the absorption of ciprofloxacin, resulting in serum and urine levels lower than desired, concurrent administration of these agents with ciprofloxacin should be avoided

Probenecid interferes with the renal tubular secretion of ciprofloxacin and produces an increase in the level of ciprofloxacin in the serum. This should be considered if patients are receiving both drugs concomitantly

As with other broad-spectrum antibiotics, prolonged use of ciprofloxacin may result in overgrowth of nonsusceptible organisms Repeated evaluation of the patient's condition and microbial susceptibility testing is essential If superinfection occurs during therapy, appropriate measures should be taken.

*Information for Patients:*

Patients should be advised that ciprofloxacin may be taken with or without meals The preferred time of dosing is two hours after a meal Patients should also be advised to drink fluids liberally and not take antacids containing magnesium or aluminum concomitantly or within two hours after dosing Ciprofloxacin may cause dizziness or lightheadedness; therefore patients should know how they react to this drug before they operate an automobile or machinery or engage in activities requiring mental alertness or coordination

*Carcinogenesis, Mutagenesis, Impairment of Fertility*

Eight *in vitro* mutagenicity tests have been conducted with ciprofloxacin and the test results are listed below

- Salmonella/Microsome Test (Negative)
- *E coli* DNA Repair Assay (Negative)
- Mouse Lymphoma Cell Forward Mutation Assay (Positive)
- Chinese Hamster $V_{79}$ Cell HGPRT Test (Negative)
- Syrian Hamster Embryo Cell Transformation Assay (Negative)
- *Saccharomyces cerevisiae* Point Mutation Assay (Negative)
- *Saccharomyces cerevisiae* Mitotic Crossover and Gene Conversion Assay (Negative)
- Rat Hepatocyte DNA Repair Assay (Positive)

Thus, two of the eight tests were positive, but the following three *in vivo* test systems gave negative results:

- Rat Hepatocyte DNA Repair Assay
- Micronucleus Test (Mice)
- Dominant Lethal Test (Mice)

Long-term carcinogenicity studies in animals have not yet been completed

*Pregnancy – Pregnancy Category C*

Reproduction studies have been performed in rats and mice at doses up to six times the usual daily human dose and have revealed no evidence of impaired fertility or harm to the fetus due to ciprofloxacin In rabbits, as with most antimicrobial agents, ciprofloxacin (30 and 100 mg/kg orally) produced gastrointestinal disturbances resulting in maternal weight loss and an increased incidence of abortion. No teratogenicity was observed at either dose. After intravenous administration, at doses up to 20 mg/kg, no maternal toxicity was produced, and no embryotoxicity or teratogenicity was observed There are, however, no adequate and well-controlled studies in pregnant women. SINCE CIPROFLOXACIN, LIKE OTHER DRUGS IN ITS CLASS, CAUSES ARTHROPATHY IN IMMATURE ANIMALS, IT SHOULD NOT BE USED IN PREGNANT WOMEN (SEE WARNINGS)

*Nursing Mothers*

It is not known whether ciprofloxacin is excreted in human milk, however, it is known that ciprofloxacin is excreted in the milk of lactating rats and that other drugs of this class are excreted in human milk Because of this, and because of the potential for serious adverse reactions from ciprofloxacin in nursing infants, a decision should be made to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother.

*Pediatric Use*

Ciprofloxacin should not be used in children because it causes arthropathy in immature animals (SEE WARNINGS).

### ADVERSE REACTIONS

Ciprofloxacin is generally well tolerated. During clinical investigation, 2,799 patients received 2,868 courses of the drug. Adverse events that were considered likely to be drug related occurred in 7 3% of courses, possibly related in 9 2%, and remotely related in 3 0% Ciprofloxacin was discontinued because of an adverse event in 3 5% of courses, primarily involving the gastrointestinal system (1 5%), skin (0 6%), and central nervous system (0 4%)

The most frequently reported events, drug related or not, were nausea (5.2%), diarrhea (2 3%), vomiting (2.0%), abdominal pain/discomfort (1.7%), headache (1 2%), restlessness (1 1%), and rash (1 1%)

Additional events that occurred in less than 1% of ciprofloxacin courses are listed below Those typical of quinolones are italicized

- GASTROINTESTINAL *(See above)*, painful oral mucosa, oral candidiasis, dysphagia, intestinal perforation, gastrointestinal bleeding.
- CENTRAL NERVOUS SYSTEM *(See above), dizziness, lightheadedness, insomnia, nightmares, hallucinations, manic reaction, irritability, tremor, ataxia, convulsive seizures, lethargy. drowsiness, weakness, malaise, anorexia, phobia, depersonalization, depression, paresthesia.*
- SKIN/HYPERSENSITIVITY *(See above), pruritus, urticaria, photosensitivity, flushing, fever, chills, angioedema, edema of the face, neck, lips, conjunctivae or hands,* cutaneous candidiasis, hyperpigmentation, erythema nodosum.
- SPECIAL SENSES *blurred vision, disturbed vision, (change in color perception, overbrightness of lights), decreased visual acuity, diplopia,* eye pain, *tinnitus, bad taste*
- MUSCULOSKELETAL: *joint or back pain, joint stiffness,* achiness, neck or chest pain, flare-up of gout.
- RENAL/UROGENITAL. *interstitial nephritis, renal failure,* polyuria, urinary retention, urethral bleeding, vaginitis, acidosis.
- CARDIOVASCULAR: palpitations, atrial flutter, ventricular ectopy, syncope, hypertension, angina pectoris, myocardial infarction, cardiopulmonary arrest, cerebral thrombosis.
- RESPIRATORY: epistaxis, laryngeal or pulmonary edema, hiccough, hemoptysis, dyspnea, bronchospasm, pulmonary embolism.

Most of these events were described as only mild or moderate in severity, abated soon after the drug was discontinued, and required no treatment

In several instances, nausea, vomiting, tremor, restlessness, agitation, or palpitations were judged by investigators to be related to elevated plasma levels of theophylline possibly as a result of a drug interaction with ciprofloxacin.

*Adverse Laboratory Changes* Changes in laboratory parameters listed as adverse events without regard to drug relationship:

- Hepatic – Elevations of ALT (SGPT) (1 9%), AST (SGOT) (1 7%), alkaline phosphatase (0 8%), LDH (0 4%), serum bilirubin (0.3%)
- Hematologic – eosinophilia (0.6%), leukopenia (0.4%), decreased blood platelets (0 1%), elevated blood platelets (0.1%), pancytopenia (0.1%)
- Renal – Elevations of: Serum creatinine (1.1%), BUN (0 9%)
- CRYSTALLURIA, CYLINDRURIA, AND HEMATURIA HAVE BEEN REPORTED

Other changes occurring in less than 0.1% of courses were Elevation of serum gammaglutamyl transferase, elevation of serum amylase, reduction in blood glucose, elevated uric acid, decrease in hemoglobin, anemia, bleeding diathesis, increase in blood monocytes, and leukocytosis

### OVERDOSAGE

Information on overdosage in humans is not available In the event of acute overdosage, the stomach should be emptied by inducing vomiting or by gastric lavage The patient should be carefully observed and given supportive treatment Adequate hydration must be maintained In the event of serious toxic reactions from overdosage, hemodialysis or peritoneal dialysis may aid in the removal of ciprofloxacin from the body, particularly if renal function is compromised

### DOSAGE AND ADMINISTRATION

The usual adult dosage for patients with urinary tract infections is 250 mg every 12 hours For patients with complicated infections caused by organisms not highly susceptible, 500 mg may be administered every 12 hours.

Respiratory tract infections, skin and skin structure infections, and bone and joint infections may be treated with 500 mg every 12 hours For more severe or complicated infections, a dosage of 750 mg may be given every 12 hours.

The recommended dosage for infectious diarrhea is 500 mg every 12 hours.

In patients with renal impairment, some modification of dosage is recommended (SEE DOSAGE AND ADMINISTRATION SECTION IN FULL PRESCRIBING INFORMATION)

### HOW SUPPLIED

Cipro® (ciprofloxacin HCl/Miles) is available as tablets of 250 mg, 500 mg, and 750 mg in bottles of 50, and in Unit-Dose packages of 100 (SEE FULL PRESCRIBING INFORMATION FOR COMPLETE INFORMATION)

## CONVENIENT *B.I.D.* DOSAGE

### Recommended dosage schedule

| Infection Site* | Severity of Infection | Dosage |
|---|---|---|
| Respiratory Tract*<br>Bone and Joint*<br>Skin/Skin Structure* | Mild/Moderate | 500 mg *B.I.D.* |
| | Severe/Complicated | 750 mg *B.I.D.* |
| Urinary Tract* | Mild/Moderate | 250 mg *B.I.D.* |
| | Severe/Complicated | 500 mg *B.I.D.* |
| Infectious Diarrhea* | Mild/Moderate/Severe | 500 mg *B.I.D.* |

*** Due to susceptible strains of indicated pathogens. See indicated organisms in Brief Summary.**

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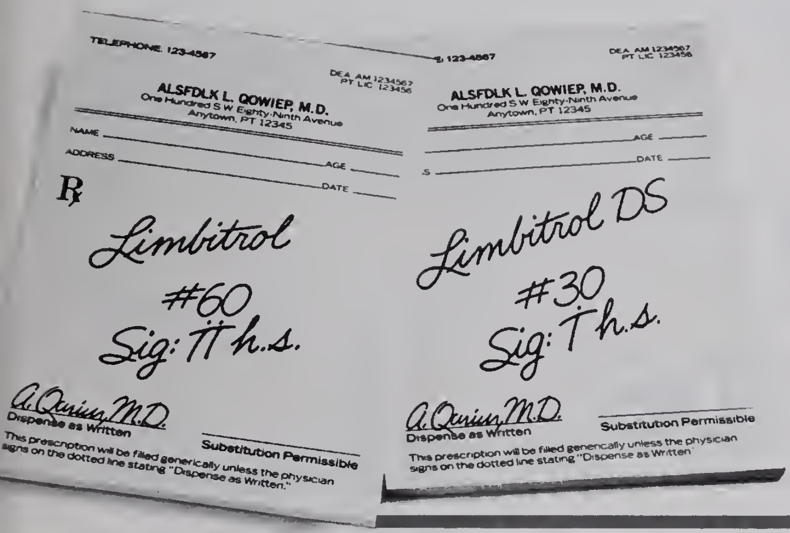

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Limbitrol
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a. Quinn, M.D.
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Substitution Permissible

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Limbitrol DS
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# Limbitrol®

Each tablet contains 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt) Ⓒ-IV

# Limbitrol® DS

Each tablet contains 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) Ⓒ-IV

**References:** **1.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Feighner VP, *et al: Psychopharmacology 61:*217-225, Mar 22, 1979.

Limbitrol® Ⓒ-IV
**Tranquilizer—Antidepressant**
**Before prescribing, please consult complete product information, a summary of which follows:**

**Contraindications:** Known hypersensitivity to benzodiazepines or tricyclic antidepressants; concomitant use with MAOIs or within 14 days of monoamine oxidase inhibitors (then initiate cautiously, gradually increasing dosage until optimal response is achieved); during acute recovery phase following myocardial infarction.

**Warnings:** Use with caution in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur when used with anticholinergics. Closely supervise cardiovascular patients. Arrhythmias, sinus tachycardia, prolongation of conduction time, myocardial infarction and stroke reported with tricyclic antidepressants, especially in high doses. Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (*e.g.,* operating machinery, driving).

***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations. Consider possibility of pregnancy when instituting therapy.**

Withdrawal symptoms of the barbiturate type have occurred after discontinuation of benzodiazepines (see Drug Abuse and Dependence).

**Precautions:** Use cautiously in patients with a history of seizures, in hyperthyroid patients, those on thyroid medication, patients with impaired renal or hepatic function. Because of suicidal ideation in depressed patients, do not permit easy access to large quantities of drug. Periodic liver function tests and blood counts recommended during prolonged treatment. Amitriptyline may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady-state concentrations of the tricyclic drugs. Use of Limbitrol with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Should not be taken during the nursing period or by children under 12. In elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects. Inform patients to consult physician before increasing dose or abruptly discontinuing this drug.

**Adverse Reactions:** Most frequent: drowsiness, dry mouth, constipation, blurred vision, dizziness, bloating. Less frequent: vivid dreams, impotence, tremor, confusion, nasal congestion. Rare: granulocytopenia, jaundice, hepatic dysfunction. Others: many symptoms associated with depression including anorexia, fatigue, weakness, restlessness, lethargy.
Adverse reactions not reported with Limbitrol but reported with one or both components or closely related drugs: *Cardiovascular:* Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke. *Psychiatric:* Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania, increased or decreased libido. *Neurologic:* Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns. *Anticholinergic:* Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract. *Allergic:* Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus. *Hematologic:* Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia. *Gastrointestinal:* Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue. *Endocrine:* Testicular swelling, gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion. *Other:* Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

**Drug Abuse and Dependence:** Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlordiazepoxide; more severe seen after excessive doses over extended periods; milder after taking continuously at therapeutic levels for several months. Withdrawal symptoms also reported with abrupt amitriptyline discontinuation. Therefore, after extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and dependence.

**Overdosage:** Immediately hospitalize patient. Treat symptomatically and supportively.
I.V. administration of 1 to 3 mg physostigmine salicylate may reverse symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

**How Supplied:** *Double strength (DS) Tablets,* white, film-coated, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt), and *Tablets,* blue, film-coated, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 50.

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- First-week reduction in somatic symptoms[1]

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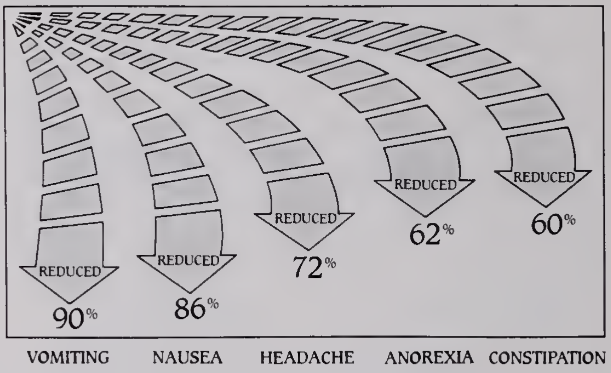
Percentage of Reduction in Individual Somatic Symptoms During First Week of Limbitrol Therapy*



*Patients often presented with more than one somatic symptom.

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**Limbitrol® DS**

Each tablet contains 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) Ⓒ(IV)

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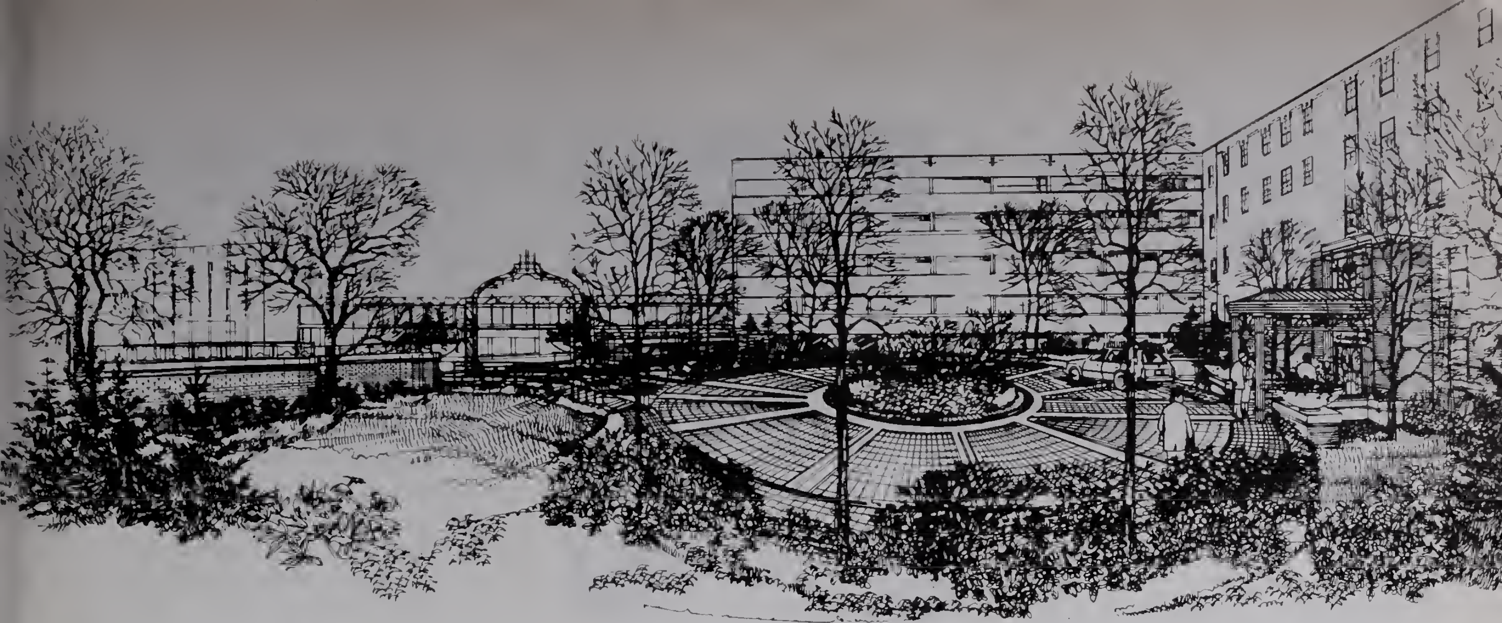
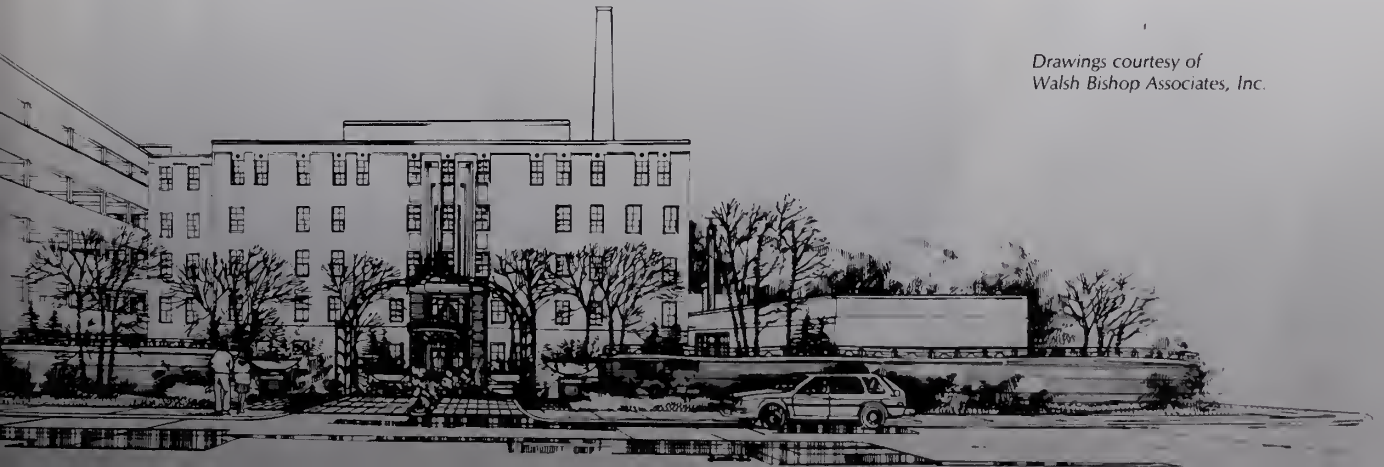


# A HOUSE
# ◆◆ *and a home* ◆◆
# FOR KIDNEY PATIENTS

James R. Wappes

After showering, Judy Tomsich heads into the kitchen for some orange juice to wait out the few hours before her husband, Len, 45, is to donate one of his kidneys to his brother, Rick, 30. She joins her mother-in-law, Nelmi Tomsich, and some other family members. And soon, just like at home, five of Rick and Len's family, including Len and Judy's son Mike, are sharing homemade oat bran muffins, fresh bread from their parents' bakery in Tower, Minnesota, and laughter. The large, spotless kitchen, with its two stoves, two refrigerators, and four sets of tables and chairs, has become a natural meeting place for the Tomsiches, a place to alleviate pre-surgery stress in a way that comes naturally for a gathering of the Tomsich clan—by talking and joking.

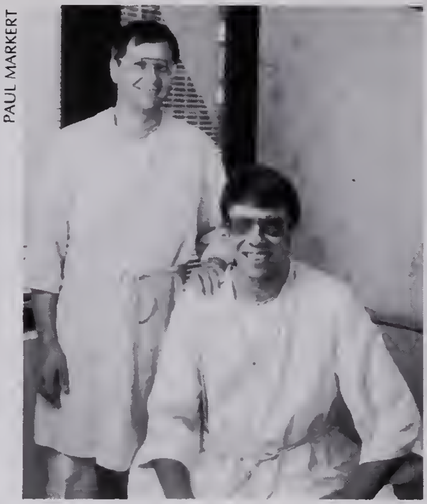
*Drawings courtesy of Walsh Bishop Associates, Inc.*



The kitchen is one of five in the new, 118-bed Beth Mensing Memorial Kidney House in downtown Minneapolis, which houses kidney patients and their families. In a one-week period, most of it before the transplant operation, the House was home to nine of the Tomsich family and friends, not to mention visiting family members. Other residents were calling their section of the floor the "Tomsich Wing."

Judy Tomsich, who now lives in New Baltimore, Michigan, compares such a gathering in this temporary home to family get-togethers in her husband's parents' home on the Iron Range. "It's kind of like in Tower, in the house above the bakery," she says. "People will just drop in." To her, the Kidney House takes on more meaning than simply a place for the family to stay. "When I leave Len at the hospital, I say I'm going home, 'cause it's home to me."

And while this feeling of being at home in the Beth Mensing Memorial Kidney House is important to kidney patients and their families, its value to the medical community is that it is the only facility in the country designed specifically to house kidney patients and their families.


PAUL MARKERT

Len (standing) and Rick Tomsich, four days after kidney surgery.

Peggy McGrew, house administrator and executive director of the National Kidney Foundation of the Upper Midwest, isn't surprised that Minnesota would lead the nation in such a venture. "A lot of pioneering has been done here," she says, explaining how the first transplants in the nation involving children and diabetics were performed in Minnesota, and how Minnesota researchers were responsible for implementing a new high-flux dialysis machine, which reduced dialysis time from six to eight hours to just over two hours. "The Regional Kidney Disease Program at Metropolitan-Mount Sinai Medical Center," she says, "has been very aggressive in setting some of the trends."

**Before the House opened, patients' families would stay in cars or in hospital lobbies, or, worse yet, stay home.**

The House, which officially opened May 25, developed as a project of the National Kidney Foundation of the Upper Midwest, which serves Minnesota, North Dakota, and South Dakota. Any kidney patient treated in the Twin Cities, however, is welcome, and people from all over the country have already stayed at the House.

More than 1,500 patients in Minnesota and the Dakotas receive dialysis, and many of them come to the Twin Cities either for dialysis or to be trained for home dialysis machines. Almost two-thirds of these dialysis patients are from outstate Minnesota or from another state. And each year, about 325 kidney transplant operations are performed at Minnesota transplant centers—Hennepin County Medical Center/Metropolitan-Mount Sinai Medical Center (combined), University of Minnesota Hospital, Veterans Administration Medical Center, and the Mayo Clinic.

These patients and their families need somewhere to stay. Morris Davidman, M.D., chairman of the board of the Kidney House and medical director of the Regional Kidney Disease Program, has seen the need for a kidney house for several years. "There's a great need for low-cost, decent housing for people who come to the Twin Cities and are sick and have families," he says.

"People who come from the rural parts of Minnesota, North Dakota, South Dakota, they are really frightened in the big city," he adds. "They're frightened about driving; they don't know how to get food. Any dorm for them is very important. To have a dorm like this that's nice and *affordable*, it's incredible. It's a sanctuary for them."

The Beth Mensing Memorial Kidney House charges $10 per room per night—if the patient can afford it. Before the House opened, according to Peggy McGrew, patients' families would stay in cars or in hospital lobbies, or, worse yet, stay home, because the cost for a hotel room was so high, and adequate housing did not exist.

That gap began to be filled when a 1979 National Kidney Foundation survey revealed that the greatest need through the year 2000 would be temporary housing for kidney patients and their families, according to McGrew. Soon after that, she says, the Minnesota VFW (Veterans of Foreign Wars), looking for a charity, contributed $50,000.

Shortly thereafter, the American Legion raised another $232,000, and a fund was born. At that point, in the early 1980s, the Kidney House project, though affiliated with the Kidney Foundation, was established as a separate nonprofit entity. But as McGrew says, "To the outside world, we're one. The Beth Mensing House is a housing facility; the Kidney Foundation is for programs."

In a sad, ironic way, the death of Beth Mensing in 1986 gave the Kidney House the final impetus it needed to become reality.

Beth Mensing had initiated Hennepin County Medical Center's first clinic for postoperative care of kidney patients and was a dedicated transplant nurse. She died of a brain aneurism at age 44. Mary Jane LaCombe, the transplant coordinator at Hennepin County, worked with Mensing in the 1970s. "She was just a very impressive person—really efficient and extremely pleasant, very quick to laugh, but always real professional," LaCombe says of Mensing.

"I've got her up on this pedestal, along with Eleanor Roosevelt. She was a joy to work with, and everyone really, really liked her. She always had time. No matter what she was in the middle of, she would greet you and see what you needed. I think she probably would have liked to be a kidney donor, if it would have been possible, because she was that type of person. She didn't seem to be able to give enough to the kidney patients."

She was not only dedicated to nursing. In 1974, just before Courtney, the second of her three children, was born, Beth Mensing left Hennepin County Medical Center to practice mothering full-time. "She was probably the best mother any kid could have," says her husband, Tom, who is chairman of the board of the Kidney Foundation of the Upper Midwest. "She did everything. She was active in the schools, went to all the events, and if you had to pick a mother, she'd be tops."

At Mensing's packed funeral, Hennepin County's chief of transplant, Robert C. Andersen, M.D., gave the eulogy and told of her dedication to kidney patients. Many were touched, among them James Ryan of Ryan Construction, a friend of the Mensings. Ryan volunteered to reconstruct the old St. Barnabas Hospital into the Kidney House at cost, with one stipulation—that the house be named in honor of Beth Mensing.

**The unofficial philosophy of the House is to be more than just a temporary shelter.**

The old St. Barnabas Hospital building itself was donated by Metropolitan-Mount Sinai Medical Center, and sits one block from the Hubert H. Humphrey Metrodome. Patients can walk the block or two to Hennepin County Medical Center or Metropolitan-Mount Sinai, if that's where they're being treated.

The entire House and its furnishings have been funded by donations of time and money. McGrew calls the House, "a gift from the community to the kidney patients and their families." The goal of $2.9 million is now just $150,000 short of being reached, and McGrew hopes to establish an endowment so that the House can function on the interest alone.

Kidney House Chairman Morris Davidman excitedly leans forward in his chair when he talks about the outpouring of donations from the community that have made the House possible. "That's the beauty of this," he says. "People in Minnesota are compassionate people. And that's what I believe makes this a different place—makes the Twin Cities a different place—than anywhere else. This represents good. It represents people caring for people."

Already there have been enough commitments made by people to start a volunteer program to run the front desk, give tours to prospective residents, and show residents to their rooms. McGrew has plans for support groups, where patients in the house can meet to discuss their common problems of kidney ailments, such as stress to families, or the unknowns of going through a kidney transplant operation. These volunteer programs are underway this month. McGrew also describes the development of a program where volunteers are assigned a patient in the House and act as a friend to their patient, taking them shopping, to a ball game, to get a hair cut, etc.

In fact, the Kidney House has just two paid staff members: Ann Carlson, the coordinator, and Lois

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**Beth and Tom Mensing's children, Michael, Rob, and Courtney, with grand-opening-day balloons in front of Beth Mensing's portrait, which hangs in the Kidney House lobby.**

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Johnson, the resident manager. Johnson, who says she sometimes feels "like just another resident, but with responsibilities," says her job, besides housekeeping duties, is to simply be a friend to the residents. "I guess I get fairly close with anybody who stays for more than, say, two weeks," she says. "But I try to say 'hi' to everybody who comes and goes. I just consider it being friendly. I'm real comfortable just visiting with people. And I think a place like this needs that."

Which reflects the unofficial philosophy of the House—to be more than just a temporary shelter. The idea is to be a home and to provide a chance to reduce stress in patients and their families by having the opportunity to talk with other patients and families who have gone through or are going through similar ordeals. It's what makes the house something other than it looks at first glance. With its plush furniture, tastefully decorated rooms, modern bathrooms and kitchens, art, and carpeting, it has all the appearance of a nice hotel, but that's just the furnishings. As with the Tomsiches, people can make it a home.

"When I first came, I thought, well gee, people will want their privacy," says coordinator Ann Carlson, "and I'll try to place them every other room and give them a little space [the center is currently about half full, but summer visitors are expected to fill it]. But I found out they want exactly the opposite. They want to be together. They want that camaraderie. They want to talk about their family or themselves or where they're from, and that will help with that family feeling."

Repeat residents often meet someone from a past visit and renew an acquaintance. One resident, 64-year-old Lionel Hoffman of Pukwana, South Dakota, who has been to the center three separate times for dialysis, says, "It gets to be a reunion place at times."

For the Tomsiches the reunion continues in Tower after Len Tomsich's release following a successful transplant. Rick Tomsich, although feeling great with renewed energy from his new, healthy kidney, will stay in the Kidney House for another six to eight weeks. Diabetic since age 11, he remembers hunting near Tower last fall and clinging to a tree, reeling and out of breath. He can't wait to get back to Tower to hunt grouse and deer.

Len Tomsich should be fully recovered after about six weeks, and will be able to return to teaching English and journalism to 7th and 8th graders in New Baltimore. His wife, Judy, who describes herself as "a housewife and a damn good one," is looking forward to spending some time together with her husband before driving to Tower. She talks about the stress and worry about having a husband and brother-in-law in surgery, but says the residents in the Beth Mensing Memorial Kidney House have helped her to deal with it. Some have been through transplant operations. "When you have stress," she says, "you tend to cling to people like that who have positive stories to tell."

So what force is at work at the Beth Mensing Memorial Kidney House that creates this informal counseling? Administrator Peggy McGrew has a simple explanation: "Kidney patients are not shy. They talk about themselves."

---

*Jim Wappes works as an intern/editorial assistant for* Minnesota Medicine.

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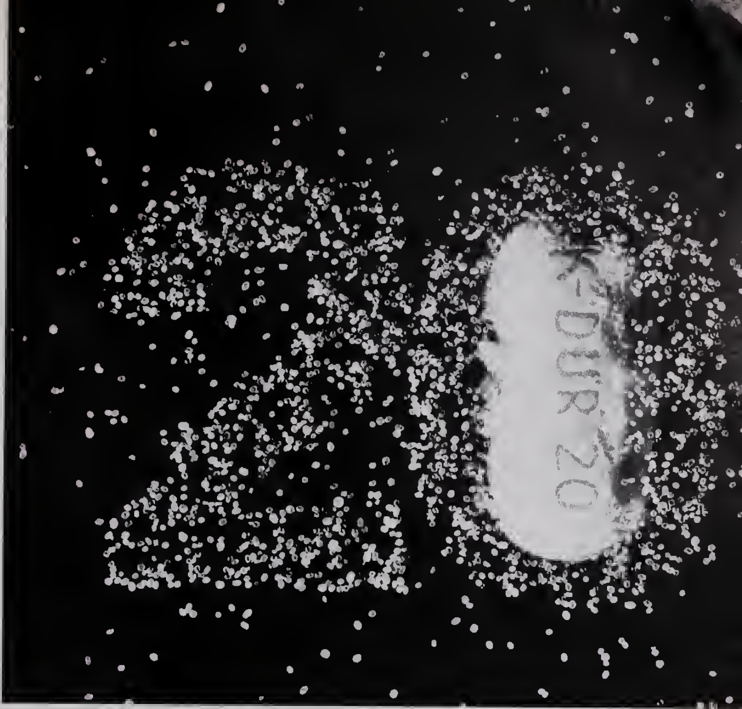

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1. For therapeutic use in patients with hypokalemia with or without metabolic alkalosis, in digitalis intoxication and in patients with hypokalemic familial periodic paralysis.

2 For the prevention of potassium depletion when the dietary intake is inadequate in the following conditions: Patients receiving digitalis and diuretics for congestive heart failure, hepatic cirrhosis with ascites, states of aldosterone excess with normal renal function, potassium-losing nephropathy, and with certain diarrheal states.

3. The use of potassium salts in patients receiving diuretics for uncomplicated essential hypertension is often unnecessary when such patients have a normal dietary pattern. Serum potassium should be checked periodically, however, and if hypokalemia occurs, dietary supplementation with potassium-containing foods may be adequate to control milder cases. In more severe cases supplementation with potassium salts may be indicated

**CONTRAINDICATIONS:** Potassium supplements are contraindicated in patients with hyperkalemia since a further increase in serum potassium concentration in such patients can produce cardiac arrest. Hyperkalemia may complicate any of the following conditions: Chronic renal failure, systemic acidosis such as diabetic acidosis, acute dehydration, extensive tissue breakdown as in severe burns, adrenal insufficiency, or the administration of a potassium-sparing diuretic (e.g., spironolactone, triamterene).

Wax-matrix potassium chloride preparations have produced esophageal ulceration in certain cardiac patients with esophageal compression due to enlarged left atrium.

All solid dosage forms of potassium chloride supplements are contraindicated in any patient in whom there is cause for arrest or delay in tablet passage through the gastrointestinal tract. In these instances, potassium supplementation should be with a liquid preparation.

**WARNINGS: Hyperkalemia**—In patients with impaired mechanisms for excreting potassium, the administration of potassium salts can produce hyperkalemia and cardiac arrest. This occurs most commonly in patients given potassium by the intravenous route but may also occur in patients given potassium orally. Potentially fatal hyperkalemia can develop rapidly and be asymptomatic. The use of potassium salts in patients with chronic renal disease, or any other condition which impairs potassium excretion, requires particularly careful monitoring of the serum potassium concentration and appropriate dosage adjustment.

**Interaction with Potassium Sparing Diuretics**—Hypokalemia should not be treated by the concomitant administration of potassium salts and a potassium-sparing diuretic (e.g , spironolactone or triamterene) since the simultaneous administration of these agents can produce severe hyperkalemia

**Gastrointestinal Lesions**—Potassium chloride tablets have produced stenotic and/or ulcerative lesions of the small bowel and deaths. These lesions are caused by a high localized concentration of potassium ion in the region of a rapidly dissolving tablet, which injures the bowel wall and thereby produces obstruction, hemorrhage or perforation.

K-DUR tablets contain micro-crystalloids which disperse upon disintegration of the tablet. These micro-crystalloids are formulated to provide a controlled release of potassium chloride. The dispersibility of the micro-crystalloids and the controlled release of ions from them are intended to minimize the possibility of a high local concentration near the gastrointestinal mucosa and the ability of the KCl to cause stenosis or ulceration. Other means of accomplishing this (e.g., incorporation of potassium chloride into a wax matrix) have reduced the frequency of such lesions to less than one per 100,000 patient years (compared to 40–50 per 100,000 patient years with enteric-coated potassium chloride) but have not eliminated them. The frequency of GI lesions with K-DUR tablets is, at present, unknown. K-DUR tablets should be discontinued immediately and the possibility of bowel obstruction or perforation considered if severe vomiting, abdominal pain, distention, or gastrointestinal bleeding occurs.

**Metabolic Acidosis**—Hypokalemia in patients with metabolic acidosis should be treated with an alkalinizing potassium salt such as potassium bicarbonate, potassium citrate, potassium acetate, or potassium gluconate.

**PRECAUTIONS:** The diagnosis of potassium depletion is ordinarily made by demonstrating hypokalemia in a patient with a clinical history suggesting some cause for potassium depletion. In interpreting the serum potassium level, the physician should bear in mind that acute alkalosis per se can produce hypokalemia in the absence of a deficit in total body potassium while acute acidosis per se can increase the serum potassium concentration into the normal range even in the presence of a reduced total body potassium. The treatment of potassium depletion, particularly in the presence of cardiac disease, renal disease, or acidosis requires careful attention to acid-base balance and appropriate monitoring of serum electrolytes, the electrocardiogram, and the clinical status of the patient.

**Laboratory Tests:** Regular serum potassium determinations are recommended. In addition, during the treatment of potassium depletion, careful attention should be paid to acid-base balance, other serum electrolyte levels, the electrocardiogram, and the clinical status of the patient, particularly in the presence of cardiac disease, renal disease, or acidosis.

**Drug Interactions:** Potassium-sparing diuretics; see **WARNINGS.**

**Carcinogenesis, Mutagenesis, Impairment of Fertility:** Long-term carcinogenicity studies in animals have not been performed.

**Pregnancy Category C:** Animal reproduction studies have not been conducted with K-DUR. It is also not known whether K-DUR can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. K-DUR should be given to a pregnant woman only if clearly needed.

**Nursing Mothers:** The normal potassium ion content of human milk is about 13 mEq per liter. Since oral potassium becomes part of the body potassium pool, so long as body potassium is not excessive, the contribution of potassium chloride supplementation should have little or no effect on the level in human milk.

**Pediatric Use:** Safety and effectiveness in children have not been established.

**ADVERSE REACTIONS:** One of the most severe adverse effects is hyperkalemia (see **CONTRAINDICATIONS, WARNINGS,** and **OVERDOSAGE).** There have also been reports of upper and lower gastrointestinal conditions including obstruction, bleeding, ulceration, and perforation (see **CONTRAINDICATIONS** and **WARNINGS);** other factors known to be associated with such conditions were present in many of these patients

The most common adverse reactions to oral potassium salts are nausea, vomiting, abdominal discomfort, and diarrhea These symptoms are due to irritation of the gastrointestinal tract and are best managed by taking the dose with meals or reducing the dose.

Skin rash has been reported rarely.

**OVERDOSAGE:** The administration of oral potassium salts to persons with normal excretory mechanisms for potassium rarely causes serious hyperkalemia However, if excretory mechanisms are impaired or if potassium is administered too rapidly intravenously, potentially fatal hyperkalemia can result (see **CONTRAINDICATIONS** and **WARNINGS**). It is important to recognize that hyperkalemia is usually asymptomatic and may be manifested only by an increased serum potassium concentration and characteristic electrocardiographic changes (peaking of T-waves, loss of P-waves, depression of S-T segment, and prolongation of the QT-interval). Late manifestations include muscle-paralysis and cardiovascular collapse from cardiac arrest.

Treatment measures for hyperkalemia include the following:

1. Elimination of foods and medications containing potassium and of potassium-sparing diuretics.
2 Intravenous administration of 300 to 500 ml/hr of 10% dextrose solution containing 10–20 units of insulin per 1,000 ml.
3 Correction of acidosis, if present, with intravenous sodium bicarbonate.
4 Use of exchange resins, hemodialysis, or peritoneal dialysis.

In treating hyperkalemia, it should be recalled that in patients who have been stabilized on digitalis, too rapid a lowering of the serum potassium concentration can produce digitalis toxicity

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# Percutaneous Discectomy
## A New Day-Surgical Method for Herniated Lumbar Discs

Charles D. Ray, M.D., F.A.C.S.

Percutaneous lumbar discectomy is a new procedure for the removal of herniated discs in selected cases. The procedure is performed under local anesthesia using image amplifying, fluoroscopic control. A specially designed needle is inserted into the center of the affected disc space, and the degenerated nuclear disc material is removed by micromorselization (chopping) and aspiration rather than by laminectomy surgery or lysis by enzymes. Because there is no incision other than a 3 millimeter stab wound and no removal of bone or muscle, treated patients remain in the day-surgery unit for a few hours and are discharged to home. Most patients are able to return to work in a few weeks. There are few side effects, and results to date are encouraging.

Non-invasive or minimally invasive (e.g., endoscopic) techniques are beginning to replace several standard surgical procedures for a variety of well-recognized reasons, medical and economic. The present method, when used in selected patients with herniated lumbar discs, can be an extremely cost-effective replacement for methods that are more extensive, more destructive, and that require significant postoperative care with hospitalization. The procedural risks are few but must be well appreciated by the surgeon performing the procedure. In general, the percutaneous lumbar discectomy is offered as an alternative not only to standard laminectomy surgery but also to the lysis of herniated disc material by enzymes, such as chymopapain or collagenase.[1] Hijikata et al. reported a series of 80 discectomy cases using a percutaneous instrumentation approach in 1978.[2] No complications were encountered. Similarly, Kambin reported 50 cases with results comparable to surgical discectomy and with no complications.[3] In addition to the present small-needle (2 mm diameter) approach, similar methods using progressively larger cannulas (up to 6 mm diameter) have been reported for percutaneous lumbar discectomies in a moderate number of cases.[4,5] As part of a multicenter cooperative study, other surgeons will soon report the satisfactory use of percutaneous discectomy in several patients.

The method used in this report arises from the initial development by a radiologist, Onik, and surgical colleagues.[1] The basic concept is similar to that used in standard vitrectomies, with a cutting and aspiration of the tissue material.[6] Over a dozen well-recognized, cooperative centers have participated in the clinical application of the present device; the nationally based results are currently being assembled for publication. Our center, the Institute for Low Back Care, is one of the participating groups in this study. The device (manufactured by Surgical Dynamics, Inc., San Leandro, CA 94577) has recently been classified for full clinical use by the USFDA and is no longer considered investigational. However, a longer-term study, over three years, of 200 cases will continue among the cooperating centers. A number of training workshops have been organized to prepare qualified neurosurgeons and orthopedists for regular application of the method.

### The Device

The instrument (Nucleotome®) is a 2 mm diameter probe about 20 cm in length (Figure 1). At the inserted end there is a small side port, resembling the eye or side port in a urinary catheter. Inside the probe, a second needle moves back and forth by means of a small pump built into the external end of the unit, opening and closing the eye (Figure 2). Thus, by the application of a gentle suction at the hole or eye of the probe, tissue is drawn into the probe when the eye is open; the inner needle closes across the eye and guillotines the tissue. On reopening of the eye, the tissue morsel is aspirated into the probe. The tissue is then gently washed out through the probe by an externally connected plastic tubing connected to the inner needle, through which sterile saline is brought down to the probe's eye. A collecting system assembles the tiny portions of the chopped disc material for submission to the pathologist. The position of the probe within the disc space is constantly monitored by fluoroscopy during the procedure (Figure 3). The probe is moved in and out and rotated while harvesting the nuclear tissue.

### Patient Selection

Because the needle used in the devise is quite stiff and straight and the target is the center of the disc space, access to the disc must be a straight line, that is, there can be no intervening bony structure. This being the case, all patients currently operated on must have her-

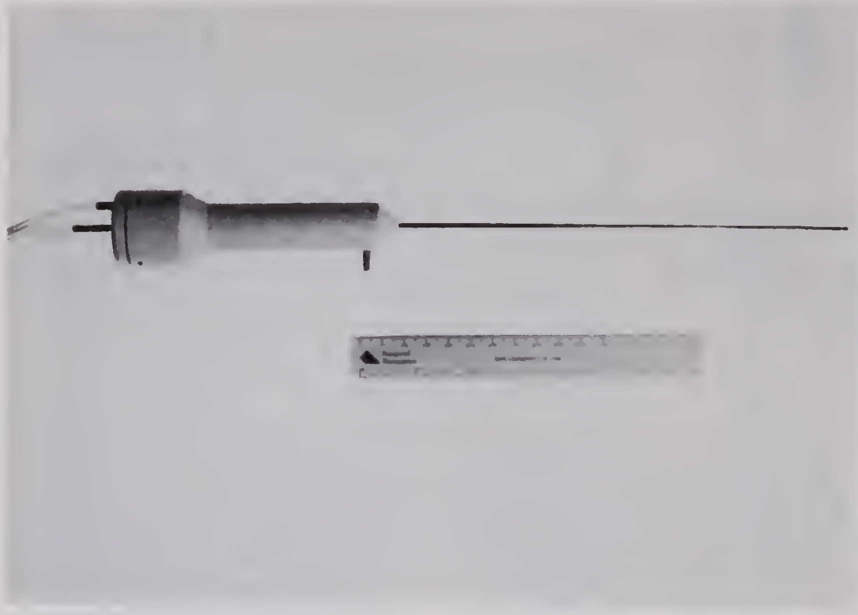


FIGURE 1 - Nucleotome® aspiration probe. Attached needle is about 8 inches (20 cm) long and 2 mm diameter. The rounded, closed end had a single side port (like a catheter eye) near its distal end that is inserted under fluoroscopic control into the intervertebral disc space at L4-L5 or higher.

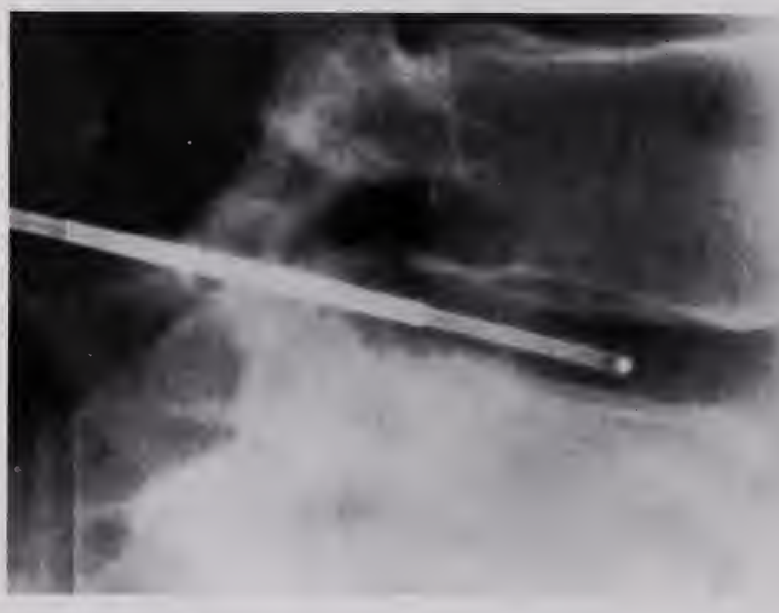


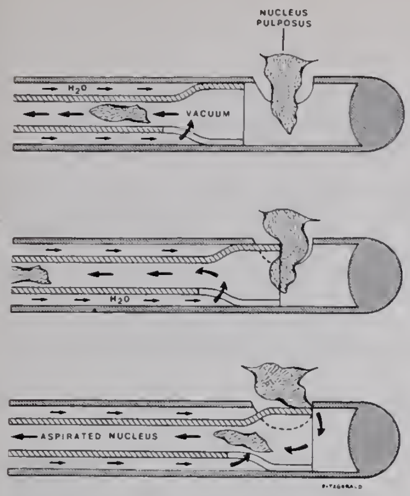
FIGURE 2 - Probe tip in diagram, longitudinal section. The cutting sleeve (also a needle) within the probe slices off any disc material sucked into the side port. Sterile saline for irrigation flows around the cutting sleeve and is aspirated along with the chopped disc material into the center of the central needle, thence out of the body.

niations at the fourth lumbar (L4-L5) level or higher. In the exceptional female, with a wider pelvis and a lower iliac crest, it may be possible to reach the center at the L5-S1 space with the existing instrument. Generally, however, the lowest disc space (L5-S1) is not approachable by the device; a curved unit, capable of treating the lumbo-sacral disc has been developed and is currently under trial.

Patients principally should be those who would ordinarily be good candidates for discectomies or for chemonucleolysis. The nuclear disc material must be degenerated and must be accessible to the chopping-aspirating end of the needle; therefore, extruded or sequestered nuclear tissue probably cannot be removed, since it will likely not be sucked back into the center of the disc during the operation of the device.

It has therefore been found that the best candidates are those who have fairly recent, contained herniations at L4-L5 level or higher, and who have predominantly leg pain from pressure on a spinal nerve root or ganglion. Whether or not the aspiration method may be used to help stabilize a disc space in a given patient whose pain is primarily found in the lower back has yet to be clarified but is also being investigated. There is some suggestion that this may be a reasonable assumption.[2,3] This was not the case with chymopapain, where the rapid descent of the dessicated disc caused anular laxity with an aggravation of segmental instability and associated back pain. Although the number of patients operated upon in our group using the Nucleotome® has been limited, our results are similar to those reported among the other participating centers, namely about five of six, or better than 75% have shown good to excellent results.[1] Clearly, it is still early to predict the long-term outcomes and how they might compare with the established surgical techniques.[7] Should the patient not receive relief within four to six weeks, and if repeat CT scanning shows an unchanged lesion, patients should have a surgical resection (probably microsurgical discectomy), as is indicated by the nature and location of the lesion.[8,9,10] Notwithstanding, the rapidity of the patient's return home, return of comfort, and return to work are substantial causes to draw attention to this promising new technique. It may prove to be a method of choice in dealing with a segment of the rather enormous population with acute problems affecting the lumbar spine.

The total cost of this procedure is significantly less than those requiring regular surgery and hospitalization. The expected morbidity and complication rate should be markedly lower than for standard laminectomy surgery. Because



Courtesy of Surgical Dynamics, Inc.,
San Leandro, CA.

**FIGURE 3 - Intraoperative fluoroscopic image showing the probe tip in place within the disc space at L4-L5.**

there is no penetration into the central spinal canal, there is a reduced likelihood for epidural scarring and root or dural injury. The technique has no chemical or potential allergic potential as had been seen with chemonucleolysis.[11] The needling procedure, on the other hand, must be done with caution due to the potentiality of spinal nerve or ganglionic injury during preliminary wire guide or probe insertion. Surgeons performing the method should be adept at surgical discectomy and should have had experience with multiple cases in which they have used discographic or chemonucleolysis needling. Familiarity with the Nucleotome® is best initiated in a suitable training setting.

## Case Study

Following is a typical case of a herniated disc at L4-5 (fortunately, for the purposes of this technique, the most commonly herniated level) in which the Nucleotome® was used with good results. A 42-year-old carpenter, who, after several recurrent episodes of low-back pain over the course of a few years, had an acute onset of right leg pain after lifting a heavy beam. He was seen by his chiropractor, who could not help abate the symptoms. His local physician had tried analgesic and mucle-relaxing medication with limited success. He was referred to our Institute for Low Back Care following a fruitless trial of various conservative treatment modalities, including two weeks in bed. A high-resolution CT scan showed a clearly herniated disc, central and right-sided. The disc appeared to be contained, probably beneath the posterior longitudinal ligament. The right knee jerk was slightly diminished, and there was a slight sensory reduction in the anterolateral thigh and lateral calf. The percutaneous discectomy was performed using local anesthesia with intravenous diazepam and fentanyl. About six grams of chopped disc material were removed easily (the pumping-cutting action ran for 42 minutes). The stab wound was covered with a Band-aid. The patient remained in the day surgical holding area for four hours and was then discharged and driven home (45 miles away) by his wife. He was up and about that evening with only minor flank soreness. He was fully active, with some lower back stiffness within two days, and returned to limited work in two weeks. He has not used any medication but acetominophen for postoperative discomfort. Four months post-procedure, he is now at full work and almost totally asymptomatic. He practices exercises and postural dynamics, as we instructed him to do, and is cautious when using his back, also as instructed. A follow-up CT scan showed a significant reduction but not elimination of the discal bulge.

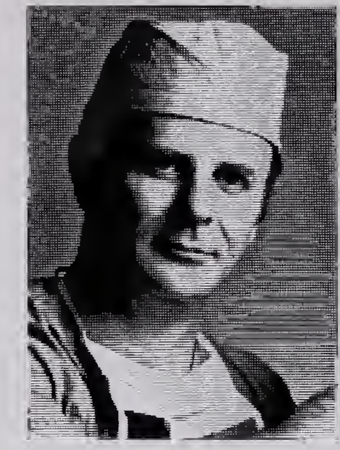
## Addendum

Since the above paper was submitted for publication, several reports and a few published papers have emerged on the subject of percutaneous automated discectomy. As mentioned above, a national study group has collected data on over 2,000 cases; these data will be published before the end of 1988. An excellent review of 500 such cases was presented at the Spine Update '87 meeting in San Francisco, October 1987, by Drs. Clyde Helms and Gary Onik. Seventy-five percent of patients had obtained good results; nearly all were treated as outpatients under local anesthesia.

To be included in this reported study, patients had to satisfy half of the following criteria: (1) A history of paresthetic, dermatomal discomfort; (2) Positive straight-leg-raising test; (3) Crossover leg pain or positive bowstring sign, or (4) Two-of-four neurological signs (wasting, weakness, sensory or reflex changes). They should also have had a CT scan or MRI study showing a herniated disc consistent with the examination findings. A myelogram was not considered necessary. Further, these patients should have had six weeks of conservative care that had failed to reduce the signs or symptoms. In general, as also commented earlier, cases should have met the criteria for lumbar surgical discectomy.

Cases excluded from consideration were those with a history of prior surgery or chymopapain injection at that lumbar segmental level, workers' compensation cases, those whose problem was felt to be a primary back pain (e.g., facet joint disorder), or those believed to have a free-fragment herniation. More recently, the multi-institutional center cooperative criteria have been further broadened to exclude those cases having lateral stenosis, multilevel degenerative disc disease, or prior surgery at any level where the results have been considered variable or poor for no apparent anatomical reason. Workers' compensation cases are now admitted under the criteria.

Our own experience at the Institute for Low Back Care now extends to 24 cases; 15 with good results. Eight cases have required subsequent direct surgical discectomy (usually microdiscectomy). We believe that the patients who should be specifically excluded are those having free-fragment herniations; those with stenosis (central, lateral, or spinal recess types), very large disc protrusions, old end-plate fractures; or those showing marked dehydration of the space on a well-detailed T2-weighted MRI study. Indeed, it appears that the MRI is the best diagnostic means to identify those discs likely to respond well to the nucleus aspiration method; in such cases a clear



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communication should be seen between the dislocated fragment, as it passes through as anular tear, and the nucleus.

A few technical improvements in the technique have also been developed or discovered. The manufacturer now provides a curved guide-canula, which may help in a few cases to guide the Nucleotome® into the disc at the L5-S1 level. The accessability of this lowest lumbar space can be estimated in advance by study of an A-P plain film of the pelvis or by taking a full-body CT slice image through the disc space. Injecting contrast into the space prior to aspiration can help determine movement of nucleus material intraoperatively. Further, hydrating the disc by injecting a few milliliters of saline may help prevent clogging of the aspiration lines. Having the patient strain and bend during the procedure may considerably improve the yield of morselized nucleus material.

In general, the technique appears to have its place among the several methods for debulking herniated discs. It is certainly less cumbersome to most patients than other available invasive methods.

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# Lumbar Disc Herniation

## How Does the Choice of Treatment Affect the Cost of Care?

*David Schwartz; Cynthia Ulstrom R.N., M.B.A.; Jill Chowins, R.N.; and Stephen D. Kuslich, M.D.*

Does the choice of treatment affect the cost of medical care? We tried to answer this question by studying a group of patients who had a common disorder of the musculoskeletal system.

Herniation of the lumbar disc is a painful and costly condition frequently diagnosed in middle-aged patients. Several effective treatments are available. We analyzed clinical and cost data on a group of 167 patients who were treated by 14 surgeons using three different surgical methods, laminectomy, microdiscectomy, and chymopapain chemonucleolysis. Our conclusion: the choice of treatment method strongly influences the cost of care.

### Background

Today's advanced medical technology has created a dilemma for the practicing physician. On one hand, many new and effective treatments are available. On the other hand, we are faced with the economic reality of finite financial resources with which to fund medical care. In some cases, certain treatment options are clearly more economical than others. In cases that are so clear-cut, careful cost analysis can reveal the most cost-effective treatment.

A 1984 study reported that the cost of caring for low-back pain and sciatica in the United States exceeded $3 billion.[1] Sciatica (neurogenic leg pain) frequently accompanies low-back pain, most commonly caused by rupture of an intervertebral disc.

Modern radiological procedures allow precise diagnosis in most cases. The condition is initially treated by non-operative measures. Unfortunately, many patients continue to experience disabling pain in spite of the best conservative treatment methods.[2] These patients are then candidates for one of the following procedures:

- ''standard'' lumbar laminectomy
- microsurgical partial discectomy
- chymopapain chemonucleolysis

The exact type of pathology prescribes the treatment in some cases, but more often, the desires of the patient and the choice of the physician determine the method of treatment. Although many surgeons are capable of performing all of the above procedures, personal preferences are important. Regional differences may also be a factor in choosing the treatment.

### Methods

How does the choice of treatment affect the cost of care? To answer this question, we retrospectively reviewed the medical and financial records of 167 consecutive patients treated by 14 different surgeons at Metropolitan Medical Center, in Minneapolis, Minnesota, from 1983 to 1985.

All cases consisted of documented instances of lumbar disc hernia unresponsive to conservative treatment measures. The cases involving the use of microdiscectomy or chymopapain were patients of a single surgeon (SDK); the laminectomy patients were under the care of one of 14 surgeons, including SDK, senior author of this paper.

The diagnoses were established by generally accepted methods, including history, physical examination, myelography, CAT or MRI scans, and in some instances, EMG studies. We reviewed only ''virgin'' disc hernias, i.e., in patients who had not previously undergone lumbar surgery. The patient, in consultation with the treating surgeon, chose the method of treatment. Candidates for chymopapain were selected using the principles defined by McCulloch.[3] As a consequence of these selection criteria, the chymopapain group tended to have the less serious ''contained'' disc hernia without significant boney spinal stenosis.

We obtained the following data from the medical record: age, diagnosis, surgical procedure, operative time, anesthesia time, blood loss due to surgery, and length of postoperative hospital stay. We derived cost data from the hospital and physician bills. In those instances where exact cost data were not available, we calculated the cost based upon community norms for the procedure.

This study was a cost analysis. We were not concerned with clinical results or success rates. Information regarding differential success rates has been published by us and many other authors.[4-9] These studies demonstrate roughly equivalent success rates for the various procedures if case selection criteria are properly followed.

### Results

The table shows the data collected on the 164 patients.

**Cost analysis:** Surgical fees were estimated from usual and customary fees listed for orthopedic surgeons in the metropolitan area; $2,050 for laminectomy and for

TABLE
Disc herniation cost study results

| | | Procedure | |
|---|---|---|---|
| | Laminectomy | Microdiscectomy | Chymopapain |
| Number of Patients | 50 | 80 | 37 |
| Average Age (Range) | 46.5 (21-75) | 46.0 (22-73) | 39.1 (21-81) |
| Postoperative length of stay (ave., days) | 4.6 | 2.0 | 1.0 |
| operating room time (ave., mins.) | 95.0 | 89.5 | 38.2 |
| Anesthesia time (ave., mins.) | 153.2 | 128.7 | 38.2 |
| Blood loss (ave., cc) | 215 | 96 | 0 |
| Surgical fees (estimated) | $2,050 | $2,050 | $1,491 |
| Anesthesia costs (calculated) | $400 | $360 | $140 |
| Hospital costs | $4,461 | $2,947 | $2,195 |
| Total costs (calculated) | $7,257 | $5,625 | $4,362 |

microdiscectomy, and $1,491 for chymopapain.

**Anesthesia costs:** We obtained anesthesia cost data by means of calculation, considering the time-unit charges prevalent during the 1983-1985 study period; we calculated anesthesia costs of $400 for laminectomy, $360 for microdiscectomy, and $140 for chymopapain treatment. In several instances, we compared the calculated charges with actual billing charges and found that our calculations were correct. In most instances, microdiscectomy was performed by means of local anesthesia. This fact accounted for some of the cost differences.

**Hospital costs:** Hospital costs were highest for laminectomy, at $4,461; then microdiscectomy, $2,947; chymopapain was lowest at $2,195. The difference in the hospital costs for the three treatments can be partially attributed to the differences in the postoperative length of stay (4.6 days for laminectomy, 2 days for microdiscectomy, and 1 day for chymopapain).

To obtain the total cost for the three treatment modalities, we used information on re-operation rates published in the recent surgical literature. In ideally selected cases, these re-operation rates are approximately 5% for a laminectomy, 5% for a microdiscectomy, and 10% for a chymopapain.[6] In order to total estimated cost, we added the calculated cost for re-operation to the subtotal of all other charges. For chymopapain, we assumed that a microdiscectomy was done whenever a re-operation was needed. The analysis of the data shows a significant difference in cost between the three treatments: laminectomy, $7,257; microdiscectomy, $5,625; chymopapain, $4,362.

## The Literature

A substantial literature now exists comparing the results of various surgical treatments for herniated lumbar discs. Laminectomy has been the standard treatment for the condition since 1934, when Mixter and Barr published their treatise on this condition.[10]

► Chymopapain use began in 1963, when Smith first carried out a clinical trial. He reported partial or complete relief of sciatica within 24 hours in nine of the first ten patients.[11] X-rays during follow-up showed narrowing of the disc in all ten.

► By 1969, eight studies involving 600 patients concluded that chemonucleolysis was an effective treatment for herniated nucleus pulposus.[3]

► In one study of 150 chymopapain patients, Brown reported 88% good results in patients with virgin discs (those with no history of previous surgery) and 69% good results in patients who had previous surgery.[4]

► In 1985 Kuslich reported the results of a study of 59 chymopapain patients. A one-year, follow-up showed 75% of patients had good to excellent pain relief.[5]

► In 1985 Ramirez and Javid summarized the results of 14 studies involving over 14,000 patients. The composite data revealed that the effectiveness rate for chymopapain is 76%.[6]

► A study of 228 patients in Minnesota by Strefling and Ness published in 1984 showed 78% of the patients achieved good or excellent results with a return to their previous functional status following standard laminectomy. However, length of stay and cost data were not reported.[12]

► In 1978, Williams completed a study that indicated over 90% good results in a group of over 500 patients with virgin discs treated by a conservative microsurgical partial discectomy.[13]

► Kuslich in 1985 reported the results and morbidity of a group of 148 microdiscectomy patients. He found that 90% of the patients reported an excellent to good result. The average postoperative length of stay was 2.6 day, and the average blood loss was 92 cc.[7]

► In 1978, Wilson and Harbaugh published a study comparing laminectomies with microdiscectomies. The microdiscectomy group lost 50 cc less blood and were hospitalized 2.63 fewer days, even though the pain relief was similar in both groups.[8]

► Finally, a study was reported in 1983 by Hudgins, comparing 176 microdiscectomy patients with 193 laminectomy patients. He found that microdiscectomies had 88% excellent to good results, compared with 74% for standard laminectomy. He also found that microdiscectomy patients left the hospital 4 days earlier than laminectomy patients.[9]

To the best of our knowledge, no study demonstrates superior results for laminectomy over microsurgical discectomy.

Far fewer studies exist comparing cost of treatment among these modalities. A 1984 study done by

Fisher showed that, on average, chemonucleolysis costs $3,500 less than a laminectomy.[14]

► In 1984, Smith Laboratory researchers presented data comparing cost and average postoperative length of stay for chemonucleolysis and laminectomy procedures. They demonstrated that chymopapain use can reduce total expense by $1,400 to $3,500.[15]

► A more recent study in 1985 by Ramirez and Javid showed that chemonucleolysis cases cost $2,000 less than a laminectomy, while requiring 5 fewer days in the hospital.[6]

► In contrast, a 1986 study of workers' compensation claims was done by Norton. Reviewing 105 patients, 61 chemonucleolysis procedures, and 44 surgical laminectomies, he found that the average cost/claim of chemonucleolysis patients was higher than those who had surgical discectomies. He attributed this difference to the increased cost associated with the chemonucleolysis failures.[16]

Our report indicates that chemonucleolysis costs about $2,000 less than a laminectomy and requires about three and a half fewer days in the hospital. When comparing a microdiscectomy to a laminectomy, both of which deal with the same patient population, we determined that microdiscectomy costs about $1,500 less than a laminectomy and requires 2.5 fewer days in the hospital. A microdiscectomy also averages 120 cc less blood loss than a laminectomy.

Some of the difference in length of stay can be attributed to the anesthesia used. Laminectomies usually require general anesthesia; microdiscectomies reported here were performed using local anesthesia. Laminectomies and microdiscectomies treat more severe types of hernias than does chymopapain. This fact might explain the differences. Currently, chymopapain is used in those cases of simpler, contained disc hernias having no stenosis. It is commonly performed as an outpatient procedure using local anesthesia.

## Conclusions

Based on our data and a review of the recent literature, we conclude that microdiscectomy and chymopapain injections are cost-effective alternatives to the standard laminectomy in the treatment of herniated nucleus pulposus. Use of these relatively new methods results in lower morbidity and lower medical costs.

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ARMY RESERVE MEDICAL PROFILE NO. 5

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**Indications and Usage**: Axid is indicated for up to eight weeks for the treatment of active duodenal ulcer. In most patients, the ulcer will heal within four weeks.

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**Contraindication**: Axid is contraindicated in patients with known hypersensitivity to the drug and should be used with caution in patients with hypersensitivity to other $H_2$-receptor antagonists

**Precautions**: *General*—1. Symptomatic response to nizatidine therapy does not preclude the presence of gastric malignancy

2 Because nizatidine is excreted primarily by the kidney, dosage should be reduced in patients with moderate to severe renal insufficiency

3 Pharmacokinetic studies in patients with hepatorenal syndrome have not been done Part of the dose of nizatidine is metabolized in the liver. In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects.

*Laboratory Tests*—False-positive tests for urobilinogen with Multistix® may occur during therapy with nizatidine.

*Drug Interactions*—No interactions have been observed between Axid and theophylline, chlordiazepoxide, lorazepam, lidocaine, phenytoin, and warfarin. Axid does not inhibit the cytochrome P-450-linked drug-metabolizing enzyme system, therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur In patients given very high doses (3,900 mg) of aspirin daily, increases in serum salicylate levels were seen when nizatidine, 150 mg b i.d., was administered concurrently

*Carcinogenesis, Mutagenesis, Impairment of Fertility*—A two-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a two-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high dose males compared to placebo. Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups The rate of hepatic carcinoma in the high dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement compared to concurrent controls, and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive, and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery is not considered evidence of a carcinogenic potential for Axid.

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, and the mouse lymphoma assay

In a two-generation, perinatal and postnatal, fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

*Pregnancy—Teratogenic Effects—Pregnancy Category C*—Oral reproduction studies in rats at doses up to 300 times the human dose, and in Dutch Belted rabbits at doses up to 55 times the human dose, revealed no evidence of impaired fertility or teratogenic effect; but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights. On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in one fetus and at 50 mg/kg it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in one fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

*Nursing Mothers*—Nizatidine is secreted and concentrated in the milk of lactating rats Pups reared by treated lactating rats had depressed growth rates. Although no studies have been conducted in lactating women, nizatidine is assumed to be secreted in human milk, and caution should be exercised when nizatidine is administered to nursing mothers.

*Pediatric Use*—Safety and effectiveness in children have not been established

*Use in Elderly Patients*—Ulcer healing rates in elderly patients are similar to those in younger age groups. The incidence rates of adverse events and laboratory test abnormalities are also similar to those seen in other age groups. Age alone may not be an important factor in the disposition of nizatidine Elderly patients may have reduced renal function.

**Adverse Reactions**: Clinical trials of nizatidine included almost 5,000 patients given nizatidine in studies of varying durations Domestic placebo-controlled trials included over 1,900 patients given nizatidine and over 1,300 given placebo. Among the more common adverse events in the domestic placebo-controlled trials, sweating (1% vs 0.2%), urticaria (0.5% vs <0 01%), and somnolence (2 4% vs 1.3%) were significantly more common in the nizatidine group A variety of less common events was also reported; it was not possible to determine whether these were caused by nizatidine

*Hepatic*—Hepatocellular injury, evidenced by elevated liver enzyme tests (SGOT [AST], SGPT [ALT], or alkaline phosphatase), occurred in some patients possibly or probably related to nizatidine. In some cases, there was marked elevation of SGOT, SGPT enzymes (greater than 500 IU/L), and in a single instance, SGPT was greater than 2,000 IU/L. The overall rate of occurrences of elevated liver enzymes and elevations to three times the upper limit of normal, however, did not significantly differ from the rate of liver enzyme abnormalities in placebo-treated patients. All abnormalities were reversible after discontinuation of Axid.

*Cardiovascular*—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in two individuals administered Axid and in three untreated subjects.

*Endocrine*—Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to Axid Impotence and decreased libido were reported with equal frequency by patients who received Axid and by those given placebo. Rare reports of gynecomastia occurred.

*Hematologic*—Fatal thrombocytopenia was reported in a patient who was treated with Axid and another $H_2$-receptor antagonist. On previous occasions, this patient had experienced thrombocytopenia while taking other drugs.

*Integumental*—Sweating and urticaria were reported significantly more frequently in nizatidine than in placebo patients. Rash and exfoliative dermatitis were also reported.

*Other*—Hyperuricemia unassociated with gout or nephrolithiasis was reported

**Overdosage**: There is little clinical experience with overdosage of Axid in humans. If overdosage occurs, use of activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy Renal dialysis for four to six hours increased plasma clearance by approximately 84%

Test animals that received large doses of nizatidine have exhibited cholinergic-type effects, including lacrimation, salivation, emesis, miosis, and diarrhea Single oral doses of 800 mg/kg in dogs and of 1,200 mg/kg in monkeys were not lethal. Intravenous $LD_{50}$ values in the rat and mouse were 301 mg/kg and 232 mg/kg respectively PV 2091 AMP [041288]

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# Human Immunodeficiency Virus Diseases in Minnesota

## Medical Care and Related Health Services

*Thomas R. Hiendlmayr, J.D., and James M. Shultz, M.S., Ph.D.*

A growing demand for health care and associated human services will parallel the predicted growth of the AIDS epidemic and the encompassing epidemic of human immunodeficiency virus (HIV)-related diseases in Minnesota. Already, 35% of Minnesota's primary care physicians report treating at least one HIV-infected patient.[1] Increasing numbers of cases of HIV-related diseases, coupled with earlier detection of HIV infection and advances in medical treatments that prolong patient survival, will inflate the caseload in the coming years.[2] Anticipating an escalating demand for services, the Minnesota Interagency Committee on AIDS Financing Issues examined access to care and financing of care for persons with HIV-related diseases for 1987 to 1990.[3] This article presents a summary of these findings.

### HIV Diseases: The Clinical Spectrum and the Spectrum of Services

In general terms, the clinical spectrum for persons infected with HIV ranges from asymptomatic HIV infection (A-HIV), to symptomatic HIV infection without AIDS (S-HIV), to AIDS. Many A-HIV patients who are unaware of their HIV-antibody status will not seek medical care. Most S-HIV patients will receive care on an outpatient basis, but some with severe symptoms will require periodic inpatient admissions. Patients with neurological impairment (NEURO) have special needs for services; these patients may be classified as AIDS cases (AIDS encephalopathy or neurologic symptoms accompanying other AIDS diagnoses) or S-HIV cases (polyneuropathies).

As of July 1, 1988, 377 AIDS cases had been diagnosed in Minnesota; 214 of these people had died (57%). The Minnesota Department of Health (MDH) has predicted that more than 1,200 Minnesota AIDS cases will be diagnosed by year-end 1990.[4,5] Ninety percent of Minnesota AIDS patients have been between the ages of 20 and 50; 97% of AIDS cases have occurred in men. Classified by transmission categories, 83% of Minnesota adult/adolescent AIDS cases have occurred in homosexual/bisexual men, 6% in homosexual/bisexual men who also reported use of intravenous drugs, 3% in heterosexual persons who reported use of intravenous drugs, 3% in persons with hemophilia, 3% in persons who reported sexual contact with a high-risk heterosexual partner, 1% in blood transfusion recipients, and 1% in persons who remain unclassified pending further investigation.

An estimated 10,000 to 30,000 Minnesota citizens are currently infected with HIV;[4] no estimate is available to classify these persons as A-HIV or S-HIV. However, data on A-HIV and S-HIV persons reported to the MDH suggest that the geographic, demographic, and risk profiles are similar to AIDS patients. For example, surveillance data through December 31, 1987, indicate that 89% of reported A-HIV and S-HIV cases have occurred in persons between the ages of 20 and 50; 93% have occurred in men. Eighty percent of persons with A-HIV or S-HIV have reported either male-to-male sex or use of intravenous drugs as primary risk behaviors.

Services needed by persons with HIV diseases will differ by their location on the clinical spectrum of HIV-related diseases. Table 1 presents a matrix of service needs. Not all HIV-infected persons will need all types of services listed. Needs will not only vary by severity of symptoms but also by the level of support available from family, friends, and partners.[3]

### Methods

**Survey Description:** The MDH undertook a survey to gather medical charge data and discharge planning information on Minnesota AIDS and S-HIV patients receiving inpatient hospital care. Hospitals were ranked by MDH surveillance staff according to numbers of AIDS patients treated; hospitals with the highest annual census of AIDS patients were invited to participate in the survey. Hospitals also were selected to provide a sample of admissions from both public and private facilities. The survey gathered data on all AIDS and S-HIV admissions to eight Minnesota hospitals (six in the Twin Cities, two in Duluth) from January 1, 1986, through March 31, 1987. Each hospital submitted medical charge data that included: patient identification code, diagnosis, length of stay, room and board charges, drug and supply charges, total charges, and payer. Three hospitals also submitted discharge planning information that included: discharge delays, discharge placement, degree of physical dependency status, psychological/neurological status, medical/nursing home/home health

TABLE 1
Services needed for persons with HIV diseases

| | HIV Disease Spectrum | | | | |
|---|---|---|---|---|---|
| Services | A-HIV* | S-HIV* (mild) | S-HIV* (severe) | NEURO* | AIDS* |
| Medical (outpatient) | X | X | X | X | X |
| Medical (inpatient) | | | X | X | X |
| Medications/pharmacy | X | X | X | X | X |
| Mental health | X | X | X | X | X |
| Home health care | | | X | X | X |
| Personal care attendant | | | X | X | X |
| Long-term care/nursing home | | | X | X | X |
| Hospice | | | X | X | X |
| Housing | | | X | X | X |
| Case management | | X | X | X | X |

| | |
|---|---|
| *A-HIV: | Asymptomatic HIV-infected patient |
| S-HIV: | Symptomatic HIV-infected patient (no AIDS diagnosis) |
| NEURO: | HIV-infected patient with significant neurologic impairment |
| AIDS: | HIV-infected patient with AIDS diagnosis |

TABLE 2
Estimated numbers of newly diagnosed AIDS cases per year (1986-1990)*

| Year | Estimated Number of AIDS Cases |
|---|---|
| 1986 | 75 |
| 1987 | 130 |
| 1988 | 215 |
| 1989 | 327 |
| 1990 | 499 |

* Estimated conservatively for purposes of projecting low estimates of costs. For further detail see reference 4.

care needs, and psychosocial service needs. All cost data, including future projections, are stated in 1986 constant dollars.

**Data by episode of care:** Data directly supplied by the hospitals permitted description of AIDS and S-HIV admissions in terms of average length of stay, charge per admission, and charge per day by diagnosis.

**AIDS admissions and inpatient costs per patient-year:** As with earlier studies,[6,7] many patients were alive and in treatment for only a portion of the window of observation. Mean admissions per year (calculated as 0.8 times admissions during the 15-month observation period) underestimate the number of admissions per full "patient-year" of treatment. While date of death was provided to the MDH for AIDS patients who died during the observation period, date of onset of AIDS symptoms was not available to permit tracking the lifetime costs of AIDS per patient. However, based on survival analyses of Minnesota AIDS patients (mean survival, 16.8 months; median survival, 11.4 months), we assumed that most patients were observed for between six to 12 months per one-year window of observation.

**Non-hospital costs per patient-year:** From interviews with AIDS-treating physicians, the frequency of outpatient visits and charge per visit were estimated; annual physician charges ranged from $450 to $800. Physician interviews also permitted estimation of medication costs, incorporating current costs for zidovudine (about $8,000 per year) and pentamidine, plus a conservative estimate of $500 for other medications. Using a range of 33% to 67% of AIDS patients on zidovudine, prorated medication costs per patient-year were estimated at $3,200 to $6,100. Hospital discharge planning data and provider interviews permitted estimation of the proportion of AIDS patients requiring long-term care and home health care. Minnesota nursing home reimbursement rates were used to estimate daily long-term care costs; home health agency data were used to estimate daily home health care costs. Estimates of outpatient mental health services needs and costs were developed from interviews with mental health professionals.

**Total costs per patient-year:** Total costs for AIDS per patient-year were calculated as the sum of inpatient and non-hospital costs.

**Estimated patient-years of treatment for AIDS and total costs for 1987-1990:** Numbers of newly diagnosed AIDS cases per year for 1986 through 1990 were derived from previous modeling (4, Model C; Table 2). MDH modeling predicts the cumulative number of AIDS cases in Minnesota as between 1,300 and 1,900 by year-end 1990. Model C was chosen for purposes of projecting costs because it is the most conservative estimate of cases and therefore most suitable for projecting a low estimate of future costs. Use of Model C should not suggest that it is the most accurate projection of cumulative cases to 1991. Because of the progressively increasing survival time for AIDS patients,[2] we estimated annual medical costs for the years 1987-1990 under assumptions of 12-, 18-, and 24-month average survival times. With a simplifying assumption that new cases would be diagnosed on July 1 of the respective year and that survival would be exactly 12, 18, or 24 months from the date of diagnosis, estimates of patient-years of treatment were developed for 1987 through 1990. Annual costs and cumulative costs for 1987 through 1990 were estimated as the product of patient-years times costs per patient-year.

**Health care coverage for AIDS patients:** Hospital-supplied information identified the payer and inpatient claim dollars for each episode of care.

## Results

MDH received information on 229 AIDS admissions (107 patients) and 63 S-HIV admissions (37 patients). Three hospitals also provided information on discharge planning (data were obtained for 158 of 292 total admissions).

**TABLE 3**
Inpatient episodes of care for AIDS and S-HIV patients (January 1, 1986 - March 31, 1987)

| | AIDS* | S-HIV* |
|---|---|---|
| Inpatient admissions | 229 | 63 |
| Inpatient admissions per patient | 1.71 | 1.36 |
| Total patient days | 2,461 | 420 |
| Length of stay (days) | | |
| Mean | 10.75 | 6.67 |
| Median | 8.00 | 5.00 |
| Total Charges | $2,072,166 | $362,282 |
| Charge per day | | |
| Mean | $842 | $863 |
| Median | $813 | $819 |
| Average charge per admission | $9,049 | $5,751 |

*AIDS: HIV-infected patient with AIDS diagnosis
**S-HIV: Symptomatic HIV-infected patient (no AIDS diagnosis)

**Data by episode of care for AIDS and S-HIV admissions:** Prorated to a one-year interval, the average number of admissions per AIDS patient was 1.71, with an average length of stay of 10.75 days (median: 8.0 days) and an average charge per day of $842 (Table 3). While daily charges were similar for the 63 S-HIV admissions ($863), numbers of annual admissions (1.36) and length of stay (6.67 days) were lower than for the 229 AIDS episodes of care.

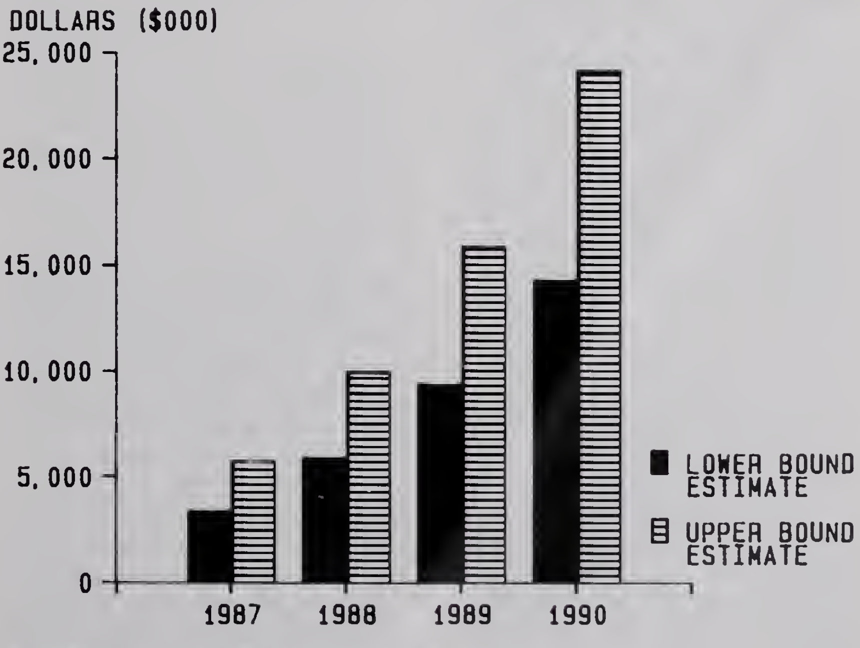
**AIDS diagnoses:** Among 229 admissions for AIDS diagnoses, 135 were for opportunistic infections excluding PCP (OI, 59.0%), 41 were for *Pneumocystis carinii* pneumonia (PCP, 17.9%), 41 were for PCP plus OI (17.9%), and 12 included a diagnosis of Kaposi's sarcoma (5.2%).

**Costs per patient-year:** Inpatient costs per patient-year were estimated to range from about $17,000 to $34,000 (Note 1). The mid-range estimate of non-hospital costs was $7,600, the sum of $600 for physician costs, $4,700 for medication costs, $400 for long-term care costs, $1,700 for home health care costs, and $200 for mental health costs. Summing inpatient and non-hospital costs, total costs per patient-year were estimated at $24,600 to $41,600.

**Annual and cumulative costs:** Annual costs for AIDS treatment and services were estimated as the product of patient-years (estimated for 12-, 18-, and 24-month survival times) times total costs per patient-year (18-month estimates appear in Figure 1). Mid-range cumulative cost estimates for the four-year period, 1987-1990, are about $30 million, $40 million, and $50 million for the three survival times, respectively (Table 4).

**AIDS costs by diagnosis:** Regardless of presenting diagnosis, the average charge per day was close to the overall mean of $842. Length of stay for patients with PCP (mean charge/admission: $9,038) or OI (mean charge/admission: $7,962) diagnoses was about ten days. However, for patients admitted with *both* PCP and OI diagnoses (mean charge/admission: $12,392), average length of stay exceeded 14 days and largely accounted for higher charges per admission.

**Health care coverage for AIDS inpatient admissions:** A public or private program covered 223 (97.4%) of AIDS admissions (Table 5). Private payers covered 63.8% of the AIDS admissions and 67.0% of claims dollars; public programs covered 33.6% of admissions and 30.2% of claims costs. Survey data indicate that individuals without health care coverage are most likely to receive care at a public hospital; among the six AIDS and three S-HIV admissions not covered by a health program, eight received care at a public facility.



Assumption: 18-month survival

**Figure 1 - Estimated medical care and health services costs for patients with AIDS diagnoses, Minnesota, 1987-1990.**

## Discussion

**MDH hospital survey findings:** Data on AIDS inpatient admissions from Minnesota hospitals collected in 1986 (1.7 admissions per year; $842 per day; average length of stay, 10.75 days) closely resembles that collected at San Francisco General Hospital in 1984 (1.7 admissions; $773 per day [1984 dollars]; average length of stay, 11.7 days),[6,7] a hospital noted for its cost-effective care of AIDS patients.

Cost projections should be viewed with caution; we regard them as conservative because they extrapolate from cost figures that predate widespread use of medications such as zidovudine and other treatment advances. Although the range of estimates allows for a modest prolongation of patient survival, no data are currently available to estimate the cost associated with new therapies and medication regimens that will be introduced during this time period.

**Financial access to care:** The current high level of coverage for AIDS admissions identified in the MDH hospital survey indicates that most Minnesota AIDS patients currently have financial access to inpatient services. This finding is consistent with the epidemiology of HIV-related disease in Minnesota; most AIDS and S-HIV cases have occurred among young adult men, a group characterized by high rates of employment and high rates of health care coverage. The fact that over 97% of AIDS and S-HIV inpatient admissions were covered by a health care program suggests that hospitals are unlikely to see significant increases in their bad debt or charity care accounts in the near future. Later, if private insurers were to increase non-discriminatory health screening for HIV infection, the number of HIV-infected persons in privately insured risk pools would decrease. The proportionate shares paid by private health care payers would decline, resulting in a shift of costs to public payers.

**Geographic access to care:** Geographically, 87% of AIDS cases reported to date have been in persons residing in the Twin Cities seven-county metropolitan area at the time of onset of symptoms (53% in Minneapolis, 13% in St. Paul). The geographic distribution of AIDS cases in Minnesota presents an important policy issue. The disproportionate concentration of AIDS cases in the seven-county Twin Cities metropolitan area, particularly in Hennepin County, suggests an unequal distribution of demand for medical treatment and health care services for HIV-infected patients. The impact on rural health delivery systems of even small numbers of AIDS and S-HIV cases in Greater Minnesota communities with limited resources and facilities to treat HIV-related diseases has not been estimated. The relative abilities of urban and rural areas to bear the costs of providing medical and community-based health care and psychosocial services for HIV-infected patients needs to be considered in tandem with the numbers of case reports.

**TABLE 4**
Estimated costs for the care of patients with AIDS diagnoses receiving periodic inpatient treatment

| | Cumulative Estimates: 1987-1990 | | |
|---|---|---|---|
| | | Medical and Services Costs ($000) | |
| Patient Survival | Patient-years* of treatment | Low Estimate | High Estimate |
| 12 months | 958 | $23,637 | $39,963 |
| 18 months | 1,331 | 32,840 | 55,523 |
| 24 months | 1,529 | 37,725 | 63,783 |

Patient-year: 12-month period of care including inpatient admissions

**TABLE 5**
Inpatient hospital claims for AIDS diagnoses by payer type January 1, 1986 - March 31, 1987

| | Admissions (percent) | Claims Dollars (percent) |
|---|---|---|
| **Public Payer** | | |
| General Assistance Medical Care | 17 ( 7.4) | $ 96,849 ( 4.7) |
| Medical Assistance (MA) | 54 (23.6) | 459,333 (22.2) |
| Medicare | 2 ( 0.9) | 14,336 ( 0.7) |
| MA + Medicare | 2 ( 0.9) | 48,314 ( 2.3) |
| Other | 2 ( 0.9) | 7,030 ( 0.3) |
| Public Payer Subtotal: | 77 (33.6) | $ 625,862 (30.2) |
| **Private Payer** | | |
| Commercial Insurance | 74 (32.3) | $ 753,008 (36.3) |
| HMOs | 50 (21.8) | 345,974 (16.7) |
| Blue Cross/Blue Shield | 21 (14.4) | 287,021 (13.9) |
| Self Pay | 1 ( 0.4) | 1,599 ( 0.1) |
| Private Payer Subtotal | 146 (63.8) | $1,387,602 (67.0) |
| **Public and Private Combined** | 1 ( 0.4) | $ 19,980 ( 1.0) |
| **No payment expected** | 5 ( 2.2) | 38,722 ( 1.9) |
| TOTAL all categories | 229 | $2,072,166 |

**Gaps in health care programs and services:** Most health care programs do not promote the full array of outpatient services that AIDS and S-HIV patients may need. In addition, program limits on particular services are a more serious problem for persons with private health care coverage.

***Medical services*** — Medical services are fully covered under most public and private health care programs. Where not fully covered, up to a 20% copayment may be required. The MDH hospital survey indicated that 97% of AIDS inpatient admissions were covered by a third-party payer. Recent changes to the state Medical Assistance

(MA) program and the revision of the AIDS case definition will extend coverage to persons previously ineligible for public programs.

***Pharmacy* —** Almost all health plans cover the cost of medical supplies and medications provided during hospitalization. However, many private health plans (HMOs and insurance plans) require copayments or do not cover non-hospital-provided supplies and prescriptions. Costs of supplies and medications for outpatient treatment for HIV-related disease symptoms will be significant, and some patients may not be able to afford substantial copayments. With frequent outpatient prescription of medications such as zidovudine, and home care services that can include intravenous and drug therapies, the need for coverage is apparent. Failure of private health care programs to cover non-hospital medications and supplies may represent a serious service gap for privately covered patients. Proposals to administer medications to A-HIV patients will exacerbate this deficit in coverage; patients without symptoms are typically not eligible to receive reimbursement for medications.

Low-income persons may have better access to outpatient procedures, treatments, and medications through the MA program than most persons with private coverage.

***Mental health services* —** Mental health services are generally limited in all health plans but are less limited in the MA program. Mandated mental health benefits in HMOs and insurance plans were expanded in the 1987 legislative session but do not extend access to mental health services to all HIV-infected patients covered by these plans. A mental health service gap exists for most HIV-infected persons, except those eligible for MA. Persons may be more likely to forgo involvement in counseling or therapy if it is not covered by a health care program. This concerns public health officials, who believe that such mental health services may be important in assisting HIV-infected persons to adopt behaviors that reduce the likelihood of HIV transmission.

***Home health care* —** Many HIV-infected persons will require home health care services at some point during the course of their disease.[3] These services include visiting nurses, nurses aides, and personal care attendants, plus the provision of necessary medical equipment and supplies. Most private health care plans do not provide home health care as a specific benefit of coverage. While some HMOs and insurance plans provide limited home health care component services, reimbursement for this type of care may be denied to AIDS patients by health plans that view such care as "custodial." Thus, in regard to home health care services, many HIV-infected patients with health coverage may be considered uninsured or underinsured.

The unavailability or restricted access to home health care negatively affects hospital medical care costs. The MDH hospital survey found that health care payer restrictions on coverage for home health care contributed to delays in hospital discharges. Of a total of 135 days of non-medically related discharge delays, lack of reimbursement for home health care was a factor in 68 days (50%).

***Hospice services* —** The availability of hospice in private health care may be as limited as home health care services, because the component services of hospice are similar to those for home health care.

***Long-term care* —** Discharge planning information obtained from the MDH hospital survey indicated that about 5% of AIDS and S-HIV patients may need long-term care. Access to nursing home care has been a concern of AIDS patient advocates because of the difficulty in finding available long-term care beds. While the MDH survey found that limited access to long-term care was a factor in discharge delays, survey data indicated that the unavailability of such beds may have prompted discharge to lower-cost alternatives, such as foster care or community residential programs.

***Housing* —** Public housing is not provided directly through any state program. Counties have responsibility for providing housing programs for homeless persons, including those who are HIV-infected. Hennepin County recently determined that housing specifically for AIDS patients was needed and subsequently contracted for 40 units.

***Case management services* —** Case management services may be needed to ensure access to the appropriate level of medical and home health care as HIV-infected patients progress through stages of the disease. There is a need to coordinate provider services and to advocate patient needs to private payers and providers for very sick patients in non-institutional settings. With longer survival times, AIDS patients may be expected to move back and forth between hospital and community settings and among health care providers, increasing the need for case-management services. Advocacy may also be increasingly needed to obtain home health care services. Currently, access to case management services is restricted to MA participants or persons who may be eligible for the MA program.

## Conclusions

The epidemic of HIV diseases has not peaked, and cost estimates presented here do not portray the increasing disease impact for the years 1991 and beyond. Although cost estimates anticipate a lengthening survival time for persons with HIV diseases, no data are available to permit estimation of the costs for new medications and therapies that will be introduced.

Thus far, coverage for inpatient care of AIDS and S-HIV patients has been distributed broadly among private and public payers, and financial access to these services has been widely available. However, particularly for persons with private health care coverage, major gaps have been identified in coverage for non-hospital services. As the epidemic diffuses geographically, access to appropriate services will become an increasingly salient issue for local government. The

Interagency Committee on AIDS Financing Issues will continue to meet regularly during 1988 to consider strategies and develop recommendations to address anticipated costs and identified service gaps for the treatment of HIV-infected patients in Minnesota.

## Acknowledgments

The authors wish to thank Dorothy Reier and Juanita Heiser for supplying AIDS surveillance data and survival analysis data. Members of the Interagency Committee on AIDS Financing Issues are: Anne Bruggemeyer, Department of Finance; Nancy Feldman, Department of Health; John Gross, Department of Commerce; Mary Kennedy, Department of Human Services; Michael Moen, Department of Health; and Linda Sutherland, State Planning Agency (listed alphabetically).

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## NOTE 1

**Calculation of Inpatient Costs per Patient-Year for AIDS Patients:**

$$\frac{\text{admissions/patient} \times \text{days/admission} \times \text{charge/day (plus 10\% for physician fees)}}{\text{average observation period/patient during one-year observation window}}$$

$$= \frac{1.71 \text{ admissions/patient} \times 10.75 \text{ days/admission} \times (\$842 + \$84)}{0.5 \text{ to } 1.0 \text{ year of observation/patient}}$$

$$= \$17{,}000 \text{ to } \$34{,}000$$

**Calculation of Total Service Costs Per Patient-Year:**

inpatient costs + outpatient medical plus human service costs

$$= (\$17{,}000 \text{ to } \$34{,}000) + \$7{,}600$$

$$= \$24{,}600 \text{ to } \$41{,}600$$

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LAWRENCE M. POSTON, M.D.

## PRESIDENT'S LETTER

# Fair is Fair! Or is It?

Let us imagine a scene of an updated production of "The Music Man." A crowded passenger coach on an Amtrak train. The occupants are engaged in a spirited exchange, each shouting an opinion in rapid-fire succession.

"Balance the budget . . . Decrease federal spending . . . Trim defense spending . . . More B-1 bombers . . . Equal pay for women . . . More day care . . . Why the space program? . . . More welfare reform . . . Jobs for everybody . . . Raise the minimum wage . . . Help the Third World . . . America first . . . What about the homeless? . . . Capital punishment . . . Higher taxes . . . Lower taxes . . . Health care is everybody's right . . . First-dollar coverage . . . Who's gonna pay? . . . There ain't enough dollars."

Get the picture? Consensus, right? Wrong! There is no real consensus on many national issues and priorities. As a people we have a broad agenda. That is to provide for the basic needs of individuals and of society. Individuals need food, shelter, education, health care, employment, transportation, and recreation. Society needs safety, public health, and environmental conservation.

A portion of some of those needs can be provided by individuals for themselves, but most are met through collective action. Some cottage industry exists. Some people do still walk, play, fish, etc., in ways that do not require publicly maintained facilities.

The vast majority of us, however, require an elaborate network of private enterprise and governmental systems to provide us with agriculture, food processing, housing, school systems, hospitals, road systems, airlines, parks, sporting events, music, theater, national defense, police, firefighters, utilities, sanitation, disease prevention, and much more.

In every area we fall short of the ideal! Some among us are hungry. Some are homeless. Some live in dangerous surroundings. Many lack adequate education, and many have limited access to basic health care.

Although some of these inequities may be, in part, the result of individual behavior, the major causes are more complex. Basically, though, the resources available to meet our collective needs are finite. And our priorities for solving our problems are not uniform because there is no consensus regarding the allocation of those resources.

Attempting to achieve the ideal solution to one problem diminishes resources available for the others. The better we satisfy a single need, the greater the portion of our total resources we will expend.

In medicine, we do have a consensus: Basic health care should be available to everyone. Broadly defined, health care includes preventive medicine, health promotion, treatment of disease and injury that can be corrected and improved, palliation of incurable illness, and supportive care for the infirm and aged. These elements of health care should be available to everyone, from conception to death. As physicians, we are committed to the delivery of such care as our goal and as a priority for our society.

But we must recognize that there are relative, if not absolute, limits to the resources available to devote to our priority. We must keep those limits in mind in our daily practice, and we must convey that same awareness to our patients. To do so is made more difficult when patients say, "I want the best, Doc, and I don't care what it costs."

We can no longer afford to deliver everything to everyone simply because it is wanted. Instead, we must choose to deliver only those services that can be expected to produce a result that is worth the cost. We can no longer afford the luxury of resource expenditure in the name of preventive medicine. We must make certain that there is a *medically* justifiable reason for all that we do.

We must carefully evaluate and re-evaluate the efficiency of those services and procedures done to screen our patients for asymptomatic, treatable disease. We must make sure that the results are worth the cost.

Many of us may not be comfortable with this responsibility. We might prefer to ignore these realities. But we can neither ignore our limited resources nor shirk our responsibility. If we would be the promoters of our patients' well-being, we must be the conservators of the resources available for their care.

Since we, as physicians, must provide or order most of that care (and we insist that it should remain that way) we must accept our obligation to use all available resources to deliver only necessary, quality, health care.

And it ain't fair.

**Platou** from page 464

est to adapt in order to better serve people.

REECE: *So you decided to go where the people and the physicians were going.*

PLATOU: You could see where freeways were going. You could see the population shifts even more clearly. But our innovation wasn't restricted to physical moves. We were the first nonprofit community hospital to have psychiatry within the hospital and the first one to have rehabilitation back in the 1950s. In other words, our board and our physicians were always alert to being flexible and adaptive rather than forcing physicians and the public into a rigid "hospital" structure.

**Many hospitals that have gone into frenzied activities are finding that they cannot get the performance they assumed, because they just don't have the capability.**

REECE: *You always seem to be slightly ahead of the changes. For instance, you are now rapidly expanding your outpatient facilities at both Fairview Southdale and Fairview Ridges. Could you inform us about these activities? Why you are doing these things?*

PLATOU: We are expanding because of our solid financial performance last year. Fairview's board has always had a policy that our future depends upon our performance. We have a mandate to manage our affairs properly. We've not depended upon gifts and funds to underwrite programs. For over 30 years our financial performance has allowed us to expand. For instance, we built Fairview Southdale without a community fund drive. We built Fairview Ridges without a community fund drive. All the expansions at Fairview Riverside were financed without a community fund drive—no solicitations, strictly out of earnings. That's been our customary way of living. Now major expansions at Fairview Southdale and Fairview Ridges also are being financed by our operating performance.

REECE: *So you don't have a heavy debt burden?*

PLATOU: We have a debt, but our debt is within the normal range.

REECE: *What are you building at Southdale and at Burnsville? What specific facilities?*

PLATOU: Principally, they are facilities for intensive care, critical care, major expansions in outpatient delivery facilities and programs, and major improvements and enlargements in obstetrical services at both hospitals. We are doing this at a time when others are undergoing serious contraction and elimination of personnel and programs.

REECE: *In real estate they say the secret is location, location, location. Your hospitals are well located.*

PLATOU: We are fortunate to be located where we are. We owe the location of Fairview Southdale to the Dayton family. The one major gift Fairview received was the Dayton brothers' gift of the 15 acres that are now Fairview Southdale. That gift stimulated a new future in multi-hospital systems. The Daytons had foresight, and we were the recipients of their thinking.

REECE: *But the Burnsville story is different. How did that hospital come to be? What episode triggered you to locate there?*

PLATOU: We received a call one day in 1972 from a gentleman who said Ridges Nursing Home had gone into bankruptcy and was being turned over to the U.S. courts. No one was interested in it. I was informed of it. I drove out one afternoon and took a look. Within a week, we concluded that the property had tremendous potential. We expected that there was going to be an evolution in that community perhaps akin to what we witnessed at Fairview Southdale. We proceeded to acquire the 140-acre property that is now Fairview Ridges.

REECE: *What was your vision of what it could be? And where are you along that visionary path?*

PLATOU: Our vision was that Burnsville would be a totally new community. That certainly has occurred. We anticipated that a significant growth of people would come along with the freeway system. That has happened. We have developed the 140 acres into a totally integrated medical, health, religious, and support activities community.

REECE: *What is the religious component of this campus?*

PLATOU: There was a small Lutheran church about eight blocks from Ridges called Prince of Peace. We had discussions, created a loan, and they built a new congregation site. It's now the second or third largest congregation of the Lutheran Church in the United States.

REECE: *Skeptics say that religious affiliation no longer plays as significant a role as it did in the past because hospitals have become more businesslike. What you're saying contradicts traditional thinking.*

PLATOU: It's not a contradiction to us. We think religious life, the mission and calling, is significant. We don't think there's any contradiction in terms by saying we do things in a businesslike manner. Our mission is strongly tied to the mission of the church, and we conduct ourselves that way.

REECE: *Last year, you were $10 million in the black while many Twin Cities hospitals were hemorrhaging financially. Why are you in such a good position financially? Have you made some adjustments in the last five years that have helped you to be profitable?*

PLATOU: What we are going through in medicine is akin to what's happening in society. New ideas come in, people see them as an alluring answer and dash ahead;

they do something because someone else is. But discipline is also important. Fairview was among the first multi-unit hospital systems; now there are many. In American industry back in the '50s in the corporate world, "conglomerate" was the buzz word. Today you don't see conglomerates. Almost all failed. They grew beyond their capability to manage.

**REECE:** *So you're saying you have to stick to your knitting?*

**PLATOU:** Absolutely. You have to be careful in trying to decide what you're good at. You enhance that and do not try to be all things. Many hospitals that have gone into frenzied activities are finding that they cannot get the performance they assumed, because they just don't have the capability.

One of the things we don't talk about too often in the health field is culture. When you take organizations and spread them into diverse, different cultures, different backgrounds, different callings, you tend to slow down decision making, respond slowly, create a tremendous overhead, and make costly mistakes. When you put that kind of organization in a competitive marketplace like the Twin Cities, you pay severe penalties.

**REECE:** *So you're saying that an organization composed of like-minded people with a shared vision of the future can move more quickly with less overhead?*

**PLATOU:** Yes.

**REECE:** *I don't want to concentrate too much on the suburbs because you also have a major downtown hospital complex called the Riverside Medical Center. This center represents a joint venture between the former Fairview Downtown Hospital and St. Mary's Hospital. How's that going? What are the changes there?*

**PLATOU:** A brief history, if I may. St. Mary's and Fairview Downtown were side by side. St. Mary's was built in 1888 and Fairview in 1906. We're good friends and neighbors. Many years ago we began sharing certain things, such as steam plants, purchasing, warehousing. Then we got into more important matters such as outpatient emergency facilities, obstetrics, pediatrics, now radiology and pathology.

In 1987 the former St. Mary's Board of Trustees and the former Fairview Riverside Board of Trustees created a new board to oversee what's now called the Riverside Medical Center. This is a 50/50 arrangement, for physicians as well as administrative staff. The new board has total responsibility for policy determination and operational performance of the Riverside Medical Center, which is about the size of Abbott Northwestern Hospital. It has its own management staff and will be addressing its role in the competitive environment.

**REECE:** *So your combined patient business is the same as Abbott's? Is your market share growing or receding or staying about the same?*

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AIR FORCE

**PLATOU:** It is our belief that Riverside Medical Center will be a strong competitor in the Minneapolis area and will be a strong and viable medical center.

**REECE:** *What centers of excellence are you concentrating on?*

**PLATOU:** Much of what has been there traditionally. We are not trying to change roles dramatically. We are going to emphasize the things that made it strong in the first instance—orthopedics, obstetrics. We're also emphasizing substance abuse programs and psychiatry.

**REECE:** *You're known not only as a seasoned and worthy competitor on the Twin Cities hospital scene, but as a thoughtful health care statesman, who has initiated some progressive ideas like multiple-hospital systems. Now you're in the twilight of your career. You'll be retiring at the end of this year. I understand you have exciting career developments ahead. The Fairview board has given you a new opportunity. Could you explain what you'll be doing?*

**PLATOU:** The Fairview board has been very gracious and thoughtful toward my family and me. They've asked me to continue on at Fairview for an indefinite time with an office and financial support. I will be involved in fundraising and other activities, but I will not be involved in the operation of the hospital. They are establishing an annual Platou scholarship for an outstanding student in the Hospital and Health Care Administration graduate program at the University of Minnesota.

I also have been invited to take part in developing the Center for Health and Medical Affairs at St. Thomas College as part of its MBA program.

**REECE:** *What do you hope to accomplish at St. Thomas? What will be your mission there?*

**PLATOU:** St. Thomas's MBA program is very large, 1,800 students. They have made a determination that the significance of health and medical issues calls for establishing a curriculum in the MBA program with an emphasis on medical and health affairs. St. Thomas is highly respected for its superior MBA programs.

**REECE:** *As I understand it, one of the roles of that division will be to help physicians to understand and to participate more effectively in the changing health care environment.*

**PLATOU:** You and your readers know as well as I that physicians have been forced into a most unfortunate position. They are educated to be physicians, and then they are forced to make economic adjustments to deal with matters for which they have had scant, if any, preparation. St. Thomas plans to offer academic programs that will help physicians help themselves. The program will help prepare them to make their own decisions in their own clinics and professional careers. There are few opportunities for physicians to develop management skills. St. Thomas sees that, and I think they're making a very positive contribution to private medicine and to physicians.

**REECE:** *St. Thomas already has many physicians in its MBA program, partly because it has a flexible program. Physicians can attend off-hours classes at their convenience in a number of locations.*

**PLATOU:** St. Thomas has been innovative and responsive. They want to take what they've already done, enlarge it, and make a contribution to medical enterprise.

**REECE:** *As an individual, what contribution do you want to make?*

**PLATOU:** Whatever I can. My respect and admiration for medicine goes way back. I had four uncles who were physicians. It seems to me that it is the practicing physician who has been the most negatively affected by all this change. We must do everything we can to ensure that we have a strong profession in the future to care for our children and our grandchildren. ■

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# NEWS CLIPS

## EXPERIMENTAL DRUGS

A recent American Medical Association survey revealed that 88 percent of physicians and 68 percent of the public favor a new Food and Drug Administration regulation that allows experimental new drugs that have not been fully tested to be used in treating patients with life-threatening diseases for which there is no effective treatment. The AMA also supports the FDA regulation.

## NEW PRO OBLIGATION

A new HCFA policy requires peer review organizations (PROs) to tell hospitals when they find patterns of poor quality care by a physician. When a PRO finds "one or more confirmed quality problems" the information may be disclosed, says a May 10 HCFA memo. Previously, HCFA allowed such a release of information only if requested by a hospital.

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*Source:* Medicine & Health, *June 6, 1988*

## MAINLY MANAGED CARE

Health care provided by HMOs, PPOs, or indemnity arrangements with some controls on use of services is overtaking conventional "unmanaged" care as the mainstream form of health plan in the U.S., according to a recent survey.

Researchers at Johns Hopkins University and the University of North Carolina found that about 60 percent of the 160 million Americans with employer-sponsored health insurance were enrolled in some kind of "managed" care plan in 1987, up from 5 percent to 10 percent in 1980.

Many of the 771 surveyed employers—large and small, public and private—say they have taken major steps to try to control health care costs without jeopardizing quality of care.

## FROM BEST TO WORST

Blue Cross/Blue Shield of Minnesota's Aware Gold health insurance plan is the best . . . and the worst, say Twin Cities benefits managers.

The 300 managers surveyed by pollster Lou Harris rated **Aware Gold** tops in employer and perceived employee satisfaction, but lowest for lessening administrative burden, providing meaningful cost control features, responding to questions and requests, and having professional sales reps.

Of the six plans analyzed, **Share Health Plan** had the lowest ratings for employer and perceived employee satisfaction. **MedCenters Health Plan** got the best ratings for prompt responses to employee questions and for having good sales people and the worst rating for offering accurate cost and use data. **Group Health Inc.** did the best on handling claims promptly, easing administrative burden, and providing effective cost control features. It got the lowest marks on perceived patient choice and convenience. **Physicians Health Plan** seemed to fall in the middle.

## NO GUARANTEES

Florida, experiencing "managed care" turmoil, plans to create a $1 million HMO guarantee fund to pay bills for members whose plans fail. Florida HMOs will each pay $25,000 to create the fund; if it falls short, the insurance department can levy a 0.5 percent tax on patient revenue.

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*Source:* Medicine & Health, *June 6, 1988*

## LIFE SUPPORT

U.S. physicians favor withdrawing life support systems from hopelessly ill or irreversibly comatose patients if they or their families request it, according to an American Medical Association survey.

Of the 1,000 physicians surveyed, only 15 percent opposed withdrawing life support systems—which would include food and water. Seven percent were unsure.

Sixty-seven percent of the physicians surveyed said they had been directly involved in treating a patient where the issue of refusal or withdrawal of life-sustaining treatment arose. Thirty-two percent said they had not encountered this situation.

Ninety percent believed that physicians should initiate discussions with patients or their families on the use or withdrawal of life-sustaining treatment. Only 7 percent said no.

Sixty-four percent of the surveyed physicians believe that "living wills"—which specify patients' wishes regarding life-support treatment if they become comatose—should be available in their offices for patients' use. Twenty-five percent said no, and 11 percent were unsure.

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*Source:* American Medical News, *June 3, 1988*

## FEWER HOSPITAL PATIENTS

Hospital occupancy fell 20 percent and average length of stay dropped 12 percent from 1980 to

1985, lowering health care costs, but also reducing hospital revenue at the same time.

Average hospital occupancy rates declined from 69.7 percent in 1980 to 56.6 percent in 1985, and average length of stay dropped from 7.35 days to 5.71 days, according to a recent study by the National Center for Health Services Research and Health Care Technology Assessment.

The declines were attributed mainly to greater use of new technology. Increased use of outpatient services, price competition among hospitals, and prospective payment were also cited as possible factors in causing the decline.

*Source:* American Medical News,
*June 3, 1988*

## MORE PHYSICIANS IN THE YEAR 2000

The number of practicing physicians in the U.S. will increase by 21.9 percent by the year 2000, predicts the American Medical Association's Center for Health Policy Research in a recent report.

The report, "Physician Supply and Utilization: Trends and Projections," projects that the active physician population will increase from 519,400 in 1986 to 633,200 by the year 2000.

Female physician numbers will increase by 91.9 percent by the year 2000, compared with a 9.2 increase for male physicians. Women, who made up just 15.3 percent of physician ranks in 1986, will account for 24.1 percent by the year 2000, the report says.

## AIDS WORRIES TEENS

Three out of 10 teen-agers say they have changed their sexual practices because of AIDS, and they are as worried about the disease as they are about paying for college.

A recent survey of junior and senior high school students revealed that money, AIDS, and making the wrong decisions about the future are their biggest worries.

Eleven percent said they know someone who has acquired AIDS or died of it. Thirty percent said the statement, "I have changed my sex life because of fear of getting AIDS" applied to them.

The students were not asked to elaborate, or whether they were sexually active. The survey thus did not reveal whether fear of AIDS led them to elect abstinence or to take precautions when having sex.

Despite their worries, 65 percent of those surveyed said they believe that science will find cures for serious diseases such as AIDS and cancer in their lifetimes.

*Source: Associated Press*

## ALL HEART

James H. Zavoral, M.D., preventive cardiologist at the Minneapolis Heart Institute, has been elected president of the American Heart Association, Minnesota affiliate, effective June 11.

Dr. Zavoral has been an active volunteer at the American Heart Association for over 14 years.

As a preventive cardiologist, Dr. Zavoral works with adults, children, and families who have a family history or risk factors for high cholesterol.

## MAYO PHYSICIAN HEADS ABFP

Dr. Robert F. Avant, professor and chairman of the Department of Family Medicine at Mayo Clinic in Rochester, Minnesota, has been elected president of the American Board of Family Practice (ABFP) for a one-year term beginning May 1988. He succeeds Dr. Paul C. Brucker.

In addition to his post at the Mayo Clinic, he serves on the Residency Review Committee for Family Practice and is past president of the Association of Departments of Family Medicine.

He attended the University of Minnesota Medical School, in Minneapolis.

## LEGISLATORS HONORED

Six Minnesota legislators were honored by the Minnesota Chapter of the American Academy of Pediatrics and the Children's Defense Fund of Minnesota for their work on behalf of child health and welfare during the 1987 and 1988 legislative sessions. Representatives Peter Rodosovich, Phil Riveness, Lee Greenfield, and Ann Wynia and Senators Michael Freeman and Linda Berglin received child health citations June 21 from the academy's president, Dr. G. Scott Giebink, University of Minnesota pediatrics professor.

Chief among the Legislature's accomplishments was the Minnesota Child Health Plan and Prenatal Care Initiative, providing medical assistance coverage to pregnant women and infants up to one year old. The programs, funded by a new state cigarette tax and additional federal Medicaid money, will provide comprehensive health insurance to 2,000 previously uninsured pregnant women and 8,000 children throughout the state.

## IMPROVED HEALTH CARE

Most people think health care quality has improved over the past five years, a recent survey revealed. The survey, commissioned by *Health Management Quarterly*, reported 56 percent of those polled think health care quality is better now, 11 percent think it's worse, and 23 percent think it's about the same.

The survey also reported that, although 68 percent favor a national health insurance program, few are willing to pay for it. Only 19 percent said they would be willing to pay $50 a year or more in taxes to fund such a program.

## FREE PRENATAL CARE FOR POOR

A recent congressional report recommends that the federal government pay for all prenatal medical services for poor women. The report, issued by a bipartisan committee, said this aid would increase the survival chances for the 40,000 infants who die each year. The $400 that is spent on average for prenatal care would be more than compensated for, because the care would help prevent physical and mental deficiencies often associated with low-birthweight babies, according to the report.

# CME IN MINNESOTA

### Provided through the MMA Medical Education Subcommittee on CME Resources

For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; (612) 378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

## AUGUST 1988

5-6 **General and Peripheral Vascular Laser Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

13-18 **First Annual HCMC Summer Conference** Hennepin County Medical Center/Hennepin Faculty Associates; Lindmeiers North Shore Lodge, Ontario, Canada. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2075.

16 **Cardiology—CME** Mesabi Regional Medical Center; Mesabi Regional Medical Center, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746; (218) 262-4881, ext. 259.

19 **Dermatology for the Primary Care Physician** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2075.

## SEPTEMBER 1988

15-16 **Eleventh Annual Trauma & Critical Care Conference** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2075.

16 **Regional Conference on Angioplasty** Abbott Northwestern Hospital; Radisson Plaza Hotel, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

21 **Dermatology—CME** Mesabi Regional Medical Center, Mesabi Regional Medical Center, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746; (218) 262-4881, ext. 259.

23 **Common Neurologic Quandaries for Primary Care** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2075.

30 **Medical Oncology for the Internist** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2075.

30 **Ethics Upper Limit: Health Care Resources in the '90s** St. Paul-Ramsey Medical Center; Earle Brown Center, St. Paul, Minnesota. CONTACT: Bonnie Young, St. Paul-Ramsey Medical Center, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

30 **Guilt: Recognition, Understanding, Letting Go** St. Paul-Ramsey Medical Center; Earle Brown Center, St. Paul, Minnesota. CONTACT: Bonnie Young, St. Paul-Ramsey Medical Center, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

30 **Northwestern Pediatric Society Annual Meeting** Northwestern Pediatric Society; Thunderbird Motel and Convention Center, Bloomington, Minnesota. CONTACT: Mark A. Nammacher, M.D., 6845 Lee Avenue North, Brooklyn Center, Minnesota 55429; (612) 566-9500.

## OCTOBER 1988

7-8 **Head Injury Conference, Acute Management and Rehabilitation** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

10-11 **Advanced Trauma Life Support Seminar** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

14 **Fifth Annual Geriatrics Conference** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

18 **Infectious Disease** Mesabi Regional Medical Center; Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota; (218) 262-4881, Ext. 259.

19-22 **Twenty-second Annual Orthopaedic & Trauma Seminar** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

21 **Second Annual Cardiology Conference** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

21-22 **Front-line Neurology: Primary Care Management of Patients with Neurological Problems** Abbott Northwestern Hospital; Radisson Plaza Hotel, 35 South 7th Street, Minneapolis, Minnesota. CONTACT: Tim Schuh, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

20-21 **Emergency Medicine for Primary Care Physicians—Fifth Update** St. Paul-Ramsey Medical Center; Holiday Inn East, I 94 and McKnight Road, St. Paul, Minnesota. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

27 **Directors of Medical Education (DME) Conference** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

27-28 **HCMC Medical Examiner Annual Forensic Science Seminar** Hennepin County Medical Center/Hennepin Faculty Associtces; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

## NOVEMBER 1988

4-5 **American College of Physicians Regional Meeting, Minnesota Chapter** American College of Physicians; Hyatt Regency Hotel, 13th and Nicollet, Minneapolis, Minnesota. CONTACT: Gerald R. Onstad, Department of Medicine, Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota 55415; (612) 347-2703.

16 **Gastroenterology** Mesabi Regional Medical Center; Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota; (218) 262-4881, Ext. 259.

17-19 **Primary Care Medicine—Sixth Update** St. Paul-Ramsey Medical Center; Holiday Inn East, I 94 and McKnight Road, St. Paul, Minnesota. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

18-19 **General and Peripheral Vascular Laser Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota. CONTACT: Tim Schuh, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

## DECEMBER 1988

1-3 **Annual Cardiopulmonary Medicine Course** St. Paul-Ramsey Medical Center; Holiday Inn East, I-94 and McKnight Road, St. Paul, Minnesota. CONTACT: Bonnie Young, St. Paul-Ramsey Medical Center, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

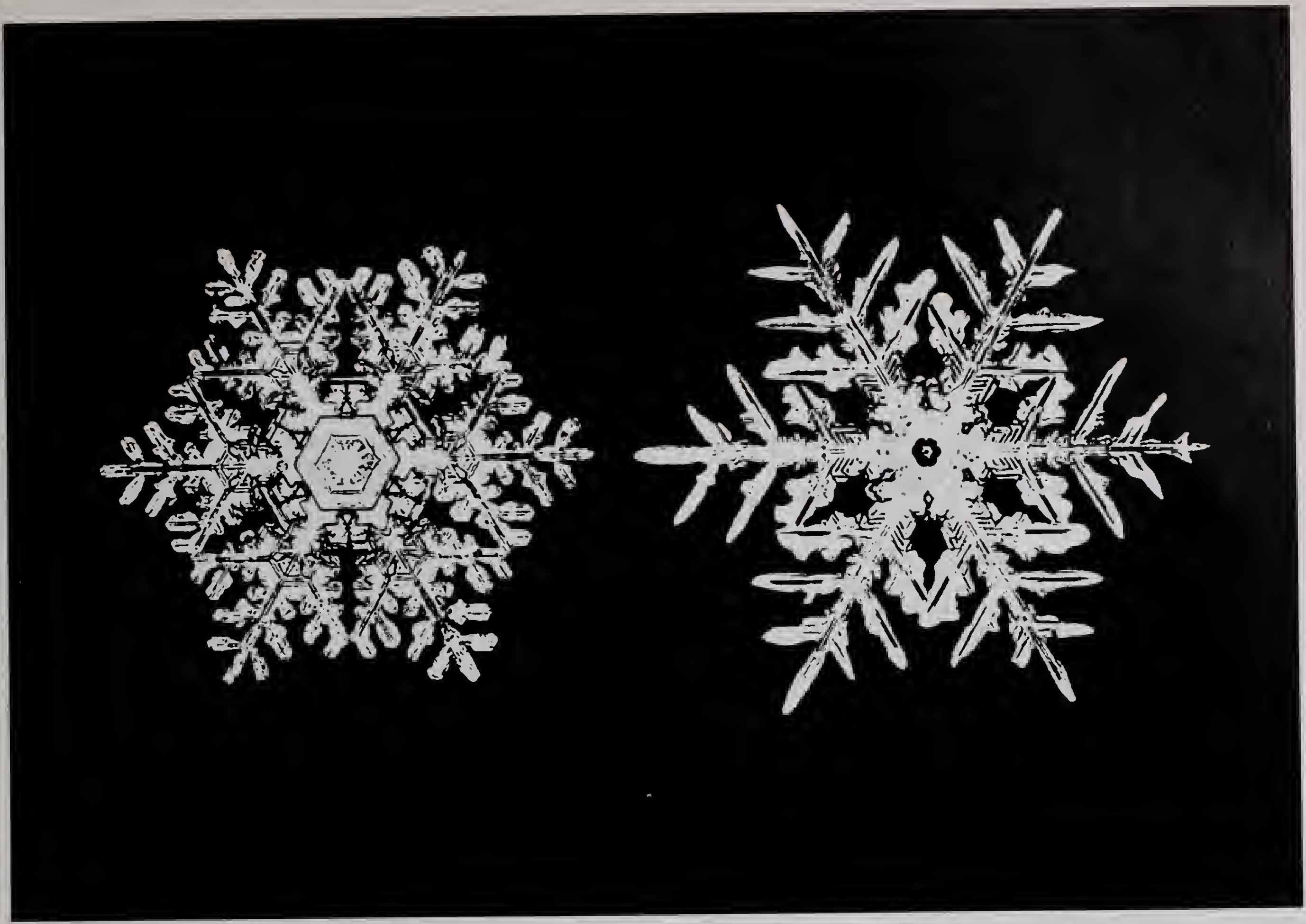
20 **Physical Medicine & Rehabilitation** Mesabi Regional Medical Center; Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746; (218) 262-4881, ext. 259.

**The**
**First National Conference on Nicotine Dependence**

**Diagnosis, Treatment and Smoke-Free Issues**
September 22 - 25, 1988
Hyatt Regency Hotel, Minneapolis

Join experts from around the country to explore nicotine as a drug of dependence.This conference will provide an exciting chance to learn the latest developments in the field from those most closely involved. Workshops include: simultaneous treatment of nicotine and alcohol dependence, inpatient treatment of nicotine dependence, developing smoke-free policies in chemical dependency and psychiatric facilities, reimbursement and legislation.

For more information, please call Judy Knapp (612) 625-1121 or Kathleen Berntson (612) 378-0902.



# No two are exactly alike.

**Because body chemistry differs from person to person, we often need a choice of drugs to treat the same illness.**

You've heard it said that no two snowflakes are exactly alike. The variety is endless. Much the same is true of the human body.

Take the case of two patients suffering from hypertension. Both under the care of the same physician, who prescribes the same medication for each. One patient responds to the medication while the other reports unpleasant side-effects. Thanks to the diversity of drugs available to treat this illness, the doctor is able to prescribe another medicine that works without the side effects.

To maintain the high standards of quality care, and because some drugs work better than others on different people, it is essential to have this diversity.

America's research-based pharmaceutical companies are committed to providing a wide range of drugs of the highest quality to serve the public. Why? Because the public is made up of different people requiring different treatment—even when they suffer from the same illness.

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IF A NEW MEDICINE CAN HELP, WE'RE WORKING ON IT.

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**Unsecured Signature Loans For Physicians:** $5,000-$60,000. No points or fees. Best rates-level payments. Up to six years to repay. For information and application call toll free 1-800-331-4952, MediVersal, Department 114. *4-8/88

**Lot For Sale:** Ultra-secluded 2-acre wooded lot in Eagan, $75,000, call Doug at 557-0314. (R)

**Pediatrician** wanted to join a 40-physician multispecialty group in northern suburbs of Minneapolis. The appropriate candidate will join the current Pediatric Department of four physicians in a very busy practice. Please address inquiries to: Bradford McKane, Comprehensive Medical Care, PA, 9055 Springbrook Drive, Coon Rapids, Minnesota 55433 or phone (612) 780-7032. (R)

**Family Physician** to join group of board certified family practitioners and one board certified general surgeon. Liberal vacation and education allowances. Competitive salary first year with incentive bonus and full membership after one year. Blue Earth is a community of 4,000 in southern Minnesota with a drawing area of 25,000. 43-bed hospital with adjoining clinic facilities. Complete ancillary support including anesthesiology, radiology, and pathology. Excellent opportunity for an aggressive young family physician. Please contact: Thomas E. Watts, M.D., Blue Earth Medical Center, Ltd., 520 South Galbraith, Blue Earth, MN 56013, Phone: (507) 526-7371, Personal Phone: (507) 526-3177; Marjeane Werner, Clinic Administrator, Phone: (507) 526-7371, Personal Phone: (507) 854-3682. (R)

**Wanted: Family Practitioner, Internal Medicine:** Central Minnesota. Starting salary $55,000. Write: Minnesota Medicine (813), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. (R)

**Twenty-nine Physician Multispecialty Clinic** located in desirable east-central Wisconsin location is seeking board certified or board qualified orthopedic surgeon to round out its services. Lab, X-ray, excellent hospital. Liberal quarantee and benefits. If interested, contact: D.F. Sweet, M.D., Fond du Lac Clinic, S.C., 80 Sheboygan Street, Fond du Lac, Wisconsin 54935. (R)

**Family Practice For Sale:** Ideal location in outer metropolitan Twin Cities area. Includes X-ray, modern lab, and all ancillary equipment, which is in excellent condition. Reasonably priced. Ideal situation for family physician who wishes to take over existing practice and enjoy immediate patient load and income. Practice easily expandable, if desired, in this rapidly growing area. Write: Minnesota Medicine (816), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. (R)

**Family Physician Sought** to join a group of five board certified family physicians practicing in a city of 3,500 population in the beautiful Minnesota River Valley. New hospital with new attached clinic and satellite locations with the very latest in equipment. Very busy, growing practice. Contact: D. Carter, M.D., (612) 564-2511 (office), (612) 564-4409 (home), 295 Tenth Avenue, Granite Falls, Minnesota 56241. (R)

**General Surgeon and Family Physician** needed for busy five-physician practice. Guaranteed first-year salary with excellent benefits program. Located only 22 miles from Duluth on the beautiful North Shore of Lake Superior. Call collect: (218) 834-2171, or write Steve Bjorum, Executive Director, Community Health Center, 4th Street at 11th Avenue, Two Harbors, Minnesota 55616. (R)

**Family Physician/Emergency Room:** Full-time salary working weekends, primarily emergency room. Flexibility available. Falls Medical Center, PA, 105 Shorewood Drive, International Falls, Minnesota 56649. Please contact: A. Johnson, M.D., or A. Marc Gorden, M.D., at (218) 283-9431 for more information. (R)

**Family Practitioner, General Internist, and General Surgeon** to join 8-physician clinic in Cloquet, Minnesota, a community of 14,000 (30,000 service area), located 20 minutes from Duluth-Superior. The clinic facility is located one block from modern, well-equipped hospital. Cloquet enjoys a stable economy (forest products). Additionally, our community is noted for its excellent school system. First-year salary guarantee, paid malpractice, health and disability insurance, vacation, and study time. Contact: John Turonie, Administrator, Raiter Clinic, Ltd., 417 Skyline Boulevard, Cloquet, Minnesota 55720; (218) 879-1271. (R)

**Canterbury Inn Bed & Breakfast:** Rochester's unique alternative to hotel living. Victorian charm with modern comforts. Private baths, fireplace, central air conditioning, gourmet or special diet breakfast anytime, "tea-time" (wine, hors d'oeuvres, etc.) daily. Private, off-street parking, three blocks to Mayo Clinic and St. Mary's. A very special place for you, your colleagues, and your patients while in Rochester. $55/single, $65/double. 723 Second Street SE, Rochester, Minnesota 55902; (507) 289-5553. (R)

**BE/BC Internal Medicine, OB/GYN & Psychiatrist:** Excellent opportunity to join a well-established, progressive, 15-physician multispecialty group (7 FP, 4 IM, 2 GS, 1 OB/GYN, 1 DERM) located in an economically sound community of 19,000 (drawing area of 30,000), 65 miles south of Twin Cities. Full membership after one year. One

FP retiring in 1987. Competitive salary and fringe benefit package. Contact: Pat Greenwood, M.D., or Jim Wilkus, Administrator, 134 Southview, Owatonna, Minnesota 55060; (507) 451-1120. (R)

**BE/BC OB/GYN or GYN/GYN SURGERY,** to join a busy 11-man multispecialty group in southern Minnesota, a community of 12,000 (trade area of 70,000), competitive salary and fringe benefits. Contact: Don Grandgenett, 8 a.m., Fairmont Medical Clinic, 800 Clinic Circle, Fairmont, Minnesota 56031; (507) 238-4263. (R)

**FP/GP Locum Available for Work** Lic. Minnesota, Wisconsin, SD, ND, Colorado, Utah, Missouri. Contact: Dr. Olin, 508 32nd Avenue South, Apt. 1, Moorhead, Minnesota 56560; (218) 233-1159. (R)

**Family Physician** wanted to join four physicians, one nurse practitioner, FP group practicing in two offices in Pine River and Pequot Lakes. Competitive salary. No OB. No HMOs. Rural area with outdoor recreational opportunities. Rotate hospital visits, emergency call; adequate free time. Call or write: C.R. Pelzl, M.D., Pine and Lakes Clinics, PO Box 88, Pine River, Minnesota 56474; (218) 587-4416. (R)

**Primary Care Physicians:** Office radiology over-reading service. Overnight turnaround, films always in your office when you need them. High-quality consultation at very low professional fees. Please send inquiries to: Minnesota Medicine (820), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. 6-8/88

**Family Physician** needed to join group of five family physicians in St. Peter, Minnesota, population 9,000, located one hour south of Minneapolis. Contact: Doug Olmanson, M.D., or D.A. Nygard, Administrator, St. Peter Clinic, Ltd., 622 Sunrise Drive, St. Peter, Minnesota 56082; (507) 931-2110. 6-8/88

**Internal Medicine:** Carroll Medical Center is seeking a general internist to join four family practitioners and one general surgeon. Carroll Medical Center was established in 1928 and has an excellent reputation in this west central Iowa community of 10,000. We have a newer 100-bed hospital. Reasonable call schedule. First-year guarantee, paid malpractice insurance and other benefits including 4-week vacation and 2-week CME time. Please call or mail CV to: Jeffrey K. Larkin, M.D., 502 North Court Street, Carroll, Iowa 51401; (712) 792-1500. 6-8/88

**Family Physician** to join four others in a well-established, progressive practice serving a market of over 20,000 people. Wabasha, one of Minnesota's most historic, friendly, and beautifully scenic cities, is located on the Mississippi River and offers year-round recreational and sporting activities. Interested physicians please contact: Tom Crowley at (612) 565-4531 (collect). (R)

**Six-man Family Practice** group in Mora, Minnesota, seeks associate. Located 65 miles north of the Twin Cities in the heart of fishing and hunting country, we offer an excellent opportunity for professional and personal growth with expanding practice, comprehensive salary and benefit package. Contact: Larry Brettingen, M.D., Mora Medical Center, Ltd., 224-7th Street, Mora, Minnesota 55051; or call (612) 679-1340. 6-8/88

**Physicians—All Specialties:** Excellent opportunities nationwide. We specialize ONLY in physician placement! Call Earl Czech (612) 754-2556. North Central Staff Services, Inc., 11000 Central Avenue NE, #207, Minneapolis, Minnesota 55434. 6-9/88

**Pediatrician:** Ideal opportunity available immediately. Excellent location. Benefits. Apply to: Randall Warren, M.D., or Richard Moore, Administrator, Mork Clinic, P.A., 1833 2nd Avenue South, Anoka, Minnesota 55303; (612) 421-3680. (R)

**GP/FP/EM Available** as locum tenens, weekends. Board Certified. FP. Lic. Minn. Write: Box 35132, Minneapolis, Minnesota 55436. (R)

**Wausau Medical Center** is seeking BE/BC individuals in the following specialties: cardiology, dermatology, family practice, infectious disease, obstetrics/gynecology, pediatrics, and rheumatology. Modern clinic facility located across the street from modern, 300-bed hospital. Full partnership in three years. Easy access to lakes, woods, and mountains. Write (including CV) to: D.K. Aughenbaugh, M.D., Medical Director, Wausau Medical Center, 2727 Plaza Drive, Wausau, Wisconsin 54401. (R)

**Bemidji, Minnesota:** Excellent opportunities for well-trained physicians. We are seeking board certified/eligible physicians in orthopedic surgery, family practice, ophthalmology, OB/GYN, and otolaryngology to join a young 22-physician multispecialty group practice located in northern Minnesota. Clinic adjacent to modern, well-staffed and well-equipped hospital. Competitive salary guarantee plus incentive first year and excellent benefits. An excellent opportunity for a physician to enjoy practice in the center of hunting, fishing, and clean air. Please respond with CV to: C.C. Lowery, Administrator, Bemidji Clinic, Ltd., 1233 34th Street NW, Bemidji, Minnesota 56601; (218) 751-1280. (R)

**St. Cloud—** Minnesota's fastest growing city—family practice physician, 2 pediatricians, 2 ob/gyns, BE/BC to join supportive primary care staff in a growing, successful, and innovative prepaid practice. New clinic facility. Full range of fringe benefits (competitive salary, liberal vacation, two weeks' education leave, retirement fund, etc.). Contact: Gary Strandemo, M.D., Central Minnesota Group Health Plan, 1245 15th Street North, St.Cloud, Minnesota 56303; (612) 253-5220. EOE. (R)

**Family Physician:** Dynamic 13-physician, 3-office, single-specialty practice in northwest Minneapolis suburbs seeking additional associate, BE/BC; OB available. Competitive salary, full benefits, reasonable call and hospital rounds schedule. Contact: Dr. Ken Kephart, Northwest Family Physicians; (612) 476-6776. (R)

**Minnesota/Family Practice** physician wanted to join 40-physician multispecialty group in northern suburbs of Minneapolis. The appropriate candidate will join the current 18 physicians. Please address inquiries to: Dr. Ronald Jankowski, 5300 153rd Avenue, Ramsey, Minnesota 55303, or phone (612) 427-7180 3-8/88

**Minnesota/Neurologist** physician wanted to join a 40-physician multispecialty group in the northern suburbs of Minneapolis. The appropriate candidate will join a very busy clinic. Please address inquiries to: Dr. Ronald Jankowski, 5300 153rd Avenue, Ramsey, Minnesota 55303, or phone (612) 427-7180. 3-8/88

**Minnesota/Internist** wanted to join a 40-physician multispecialty group in northern suburbs of Minneapolis. The appropriate candidate will join the current two physicians. Please address inquiries to: Dr. Ronald Jankowski, 5300 153rd Avenue, Ramsey, Minnesota 55303, or phone (612) 427-7180. 3-8/88

**Obstetrician-Gynecologist:** Winter Park Memorial Hospital, a 301-bed, not-for-profit hospital located adjacent to Orlando, seeks two board-certified or board-eligible ob-gyns for immediate, hospital-based, salaried positions. State-of-the-art hospital with six birthing rooms and 24-hour anesthesia coverage. Excellent financial package for qualified physicians. Contact: Director of Medical Staff Services, (407) 646-7495. 3-8/88

**Family Practice:** Winter Park Memorial Hospital, a 301-bed, not-for-profit hospital located adjacent to Orlando, seeks two board-certified or board-eligible family practice physicians to become associates of two well-established growing family physician practices. Contact: Director of Medical Staff Services, (407) 646-7495. 3-8/88

**General Medicine:** Position available with Cancer Detection Center at University of Minnesota. Clinic focus is on health risk screening and assessment. Hourly wage. Part-time flexible hours. No weekends. No call. Current Minnesota license required. For more information, call/write: Dr. Victor Gilbertsen, Director, Box 99, University of Minnesota Hospitals, Minneapolis, Minnesota 55455; (612) 625-6970. *3-8/88

**Medical Practice Opportunity:** Seeking highly qualified and motivated family/general practice physician for predominantly agricultural community located in northeastern South Dakota. Modern clinic building available next door to our 21-bed acute-care hospital. Guaranteed income for the first year between $80,000 and $90,000. First-year malpractice insurance, relocation expenses, and free clinic use are part of the package. Specialty physicians available 25 miles east in Aberdeen. Excellent hunting and fishing. Position available immediately. Contact: Ken Trammell, Administrator, Ipswich Community Hospital, Box 326, Ipswich, South Dakota 57451; 1-605-426-6011. 3-8/88

**Ten-person Multispecialty Clinic** seeking pediatrician and general surgeon. Financial package competitive. Outdoor hunting, fishing wonderland! Excellent lifestyle, practice, and opportunity. Interested individuals should contact: Nephtali Matta, Administrator, Medical Associates Clinic, 772 East Dakota, Pierre, South Dakota 57501; (605) 224-5901. *3-8/88

**Family Practice, Brainerd, Minnesota:** Immediate opening for seventh BC/BE family practitioner for 18 multispecialty clinic. No capitation. Two hours from Minneapolis. Beautiful lakes and trees; ideal for families. Call collect or write: Curtis J. Nielsen, PO Box 524, Brainerd, Minnesota 56401; (218) 829-0354 or 829-4901. 2-8/88

**ENT:** Best of both worlds—a relaxed lifestyle and an established busy practice opportunity are offered by this multispecialty group located in Minnesota's beautiful lake country. Excellent compensation and benefit package. For further information, please contact: John Shonyo, CPC, Physician Recruiter, Robert William James & Associates, 2360 North Broadway, Rochester, Minnesota 55904; (507) 285-9270, or 285-0958 (after 6 p.m., CDT). *2-8/88

**Robert William James & Associates** has been providing executive and medical search services to client organizations since 1977. We are currently seeking physicians in virtually all specialty areas for health care clients throughout the country. Fees are assumed by our clients. All inquiries are handled in a professional and confidential manner. For further information, contact: John S. Shonyo, CPC, Physician Recruiter, Robert William James & Associates, 2360 North Broadway, Rochester, Minnesota 55904; (507) 285-9270. Offices located nationwide. *2-8/88

**Full-time, Part-time and Moonlighting Positions** in a four-hospital emergency department. Flexible schedules. Very competitive compensation. Malpractice furnished. Excellent benefits for full-time. Contact HealthEast, Department of Emergency Medicine, 403 Maria Avenue, St. Paul, Minnesota 55106; (612) 772-5446. 3-9/88

**Emergency Medicine, Brainerd, Minnesota:** Need BC/BE EM or FP. Join a board certified emergency medicine MD and 18 MD multispecialty clinic. Two hours from Minneapolis. Beautiful lakes and trees; ideal for families. Call collect/write Curtis J. Nielsen, PO Box 524, Brainerd, Minnesota 56401; (218) 829-0354 or 829-4901. 3-9/88

**Minneapolis Suburban Pediatric Group** has opportunity for board-certified or eligible pediatrician. Busy, diverse practice with good compensation and fringe benefit package. Contact: Gene Inett, Administrator, Metropolitan Pediatric Specialists, P.A., 416 Southdale Medical Building, Edina, Minnesota 55435; (612) 920-9191. 3-9/88

**Gastroenterologist** wanted to join a group of four general surgeons with an active practice in GI endoscopy in Duluth, Minnesota. First-year salary guarantee and excellent benefits with early partnership opportunity. For details send CV to: Duluth Surgical Associates, Ltd., North Land Medical Office Center, 1000 East First Street, Suite 203, Duluth, Minnesota 55805. 3-9/88

**Board-Certified, Family Practice Physician** needed to join four family practitioners and one surgeon in clinic located 100 miles west of Twin Cities. Must be willing to handle OB and orthopedics. Excellent financial program and liberal vacation policy. Please call or write: Steven D. Medrud, M.D., Redwood Medical Center, 1100 East Broadway Street, Redwood Falls, Minnesota 56283; (507) 637-2985. 3-9/88

**Pediatrician, Family Practice, Anesthesiologist, Radiologist, Orthopedics, Psychiatrist:** 120-bed hospital assisting growing medical community in recruiting physician specialists to various established practices. Thirty-two practicing physicians are located in Mitchell, South Dakota, a community of 15,000 with rural referral area of approximately 32,000. Mitchell, the 1988 South Dakota Community of the Year, is a progressive, expanding community with an excellent education system and a vast array of outdoor sporting activities. Excellent first-year guaranteed income arrangements offered. Interested candidates should send CV to: Fred Slunecka, Executive Director, St. Joseph Hospital, Fifth and Foster, Mitchell, South Dakota 57301; 1-800-992-2002 or 605-995-2258. 3-9/88

**General Internist:** 14-member primary care group, including ten family physicians, one internist, surgeon, pediatrician and OB/GYN, requires a board-certified general internist to continue and develop a primary and consultative internal medicine practice in Marshall, Minnesota. Affiliated with a progressive multispecialty group of 72 physicians. USUAL CHAMBER OF COMMERCE CLAIMS NEARLY TRUE HERE! Contact C. Paul Martin, M.D., Doctors' Plaza, 300 South Bruce, Marshall, Minnesota 56258; (507) 532-9631 or send CV and references to: John Merickel, M.D., Willmar Medical Center, 101 Willmar Avenue SW, Willmar, Minnesota 56201. 4-10/88

**2V STAT:** Medical diagnostic and therapeutic decision support software, covering 69 specialties. Medical algorithms (flow charts) are grouped according to sign, symptom, complaint, organ and system, specialty, age, and MDC/DRG. Updated medical knowledge at fingertips. Demo disk, $95. Contact: 2V STAT, 2480 Windy Hill Road, Suite 201, Marietta, Georgia 30067; or call Dongbong Kim, M.D., NOW! at (404) 956-1855 for further information. *6-12/88

**Urgent:** FP/GP physicians needed for practice opportunities within ARIZONA and throughout the United States. Excellent group and solo opportunities available. For additional information, call (602) 990-8080; or send CV in confidence to: Mitchell & Associates, Inc., PO Box 1804, Scottsdale, Arizona 85252. (*R)

**Minnesota/Orthopedic Surgeon** to join a 40-physician multspecialty group in the northern suburbs of Minneapolis. The appropriate candidate will join a very busy two-physician department. Please address inquiries to: Dr. Ronald Jankowski, 5300 153rd Avenue, Ramsey, Minnesota 55303; or phone (612) 427-7180. 3-9/88

**Minnesota/Obstetrician-Gynecologist** to join a 40-physician multispecialty group in the northern suburbs of Minneapolis. The appropriate candidate will join a very busy five-physician ob/gyn department. Please address inquiries to: Dr. Ronald Jankowski, 5300 153rd Avenue, Ramsey, Minnesota 55303; or phone (612) 427-7180. 3-9/88

**Family Practice:** Marshfield Clinic is seeking BE/BC family practitioners to join its expanding department in Marshfield. The department is currently staffed by five family practitioners with plans to add three additional members. With the exception of obstetrics, which is done by staff obstetricians, the practice offers a full range of inpatient and outpatient services. Full specialty consultation is readily available in-house. Our community of 20,000 offers strong economic stability combined with exceptional recreational, cultural, and educational opportunities. We offer a current starting salary up to $85,000 with salary in two years up to $110,000. Fringe benefit package outstanding. Send CV and references to: David L. Draves, Department of Administration, 1000 North Oak Avenue, Marshfield, Wisconsin 54449; or call collect (715) 387-5376. *1-8/88

**Pediatrician & Family Practitioner:** Leading suburban multispecialty clinic needs peds & family practitioner. Outstanding opportunity to associate with quality professionals. Ideal community to live and raise a family. Contact: Richard Moore, Clinic Administrator, Mork Clinic, 1833 Second Avenue South, Anoka, Minnesota 55303; (612) 421-3680. 3-10/88

**General Internist:** Marshfield Clinic, a 260-physician multispecialty group practice, is seeking BE/BC general internal medicine specialists to join its expanding department in Marshfield, Wisconsin. The department is currently staffed by 23 general internists with immediate plans to add seven or more additional members. The current call schedule is generally one night per month and one out of five weekends. An Internal Medicine Residency Program, University of Wisconsin Medical School affiliation, Medical Research Foundation, and ongoing new development, i.e., Geriatrics Evaluation Center and walk-in medicine, contribute to a very stimulating environment. Our community of 20,000 offers strong economic stability combined with exceptional recreational, cultural, and educational opportunities. We offer a current starting salary up to $85,000 with salary in two years up to $110,000. Fringe benefit package outstanding. Send CV and references to: David L. Draves, Department of Administration, 1000 North Oak Avenue, Marshfield, Wisconsin 54449; or call collect (715) 387-5376. *1-8/88

**Psychiatrist/Chemical Dependency:** Psychiatrist interested in chemical dependency needed to join 220-physician multispecialty group with adjacent 447-bed hospital. Position includes inpatient services for Chemical Dependency Unit with full range of outpatient chemical dependency services available; Evaluation and Detoxification Unit; outpatient chemical dependency clientele and followup; general psychiatric practice also available. Behavioral Medicine Department is currently staffed by seven psychiatrists, one child/adolescent psychiatrist, and two psychologists. New clinic building recently completed. Gunderson Clinic, Ltd., is located in La Crosse, Wisconsin, a progressive community of 50,000 built along the shores of the Mississippi River amid scenic bluffs; the city offers excellent recreational facilities. Numerous educational and cultural opportunities are provided by an expanding university with undergraduate and graduate degree programs, and a private liberal arts college. Excellent pension program, no investment required. Service organization. Write: Philip J. Dahlberg, M.D., Chairman, Personnel Committee, Gunderson Clinic, Ltd., 1836 South Avenue, La Crosse, Wisconsin 54601. An Equal Opportunity Employer. *1-8/88

**Pulmonary/Critical Care Physician** needed to join the four-member Pulmonary Section of a 280-physician multispecialty medical clinic in the attractive Minneapolis-St. Paul area. Candidate should have skills in critical care, sleep disorders, and rest and exercise cardiopulmonary physiological evaluation. Interests in teaching and research desirable. Salary and benefits are exceptional. Send CV and letters of inquiry to: Paul Greif, M.D., Park Nicollet Medical Center, 5000 West 39th Street, Minneapolis, Minnesota 55416. *1-8/88

**San Diego, California:** Hospital-affiliated primary care group seeking additional associates. BC/BE in family medicine and internal medicine. New state-of-the-art outpatient primary care centers. Excellent compensation package with benefits and incentive. Send CV to: Medical Director, Mercy CarePoint Medical Group, 1011 Camino del Rio South, #450, San Diego, California 92108. 1-8/88

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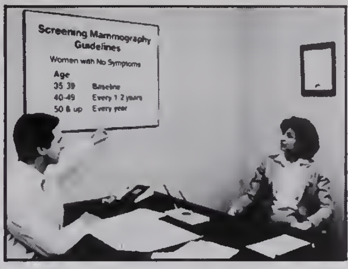

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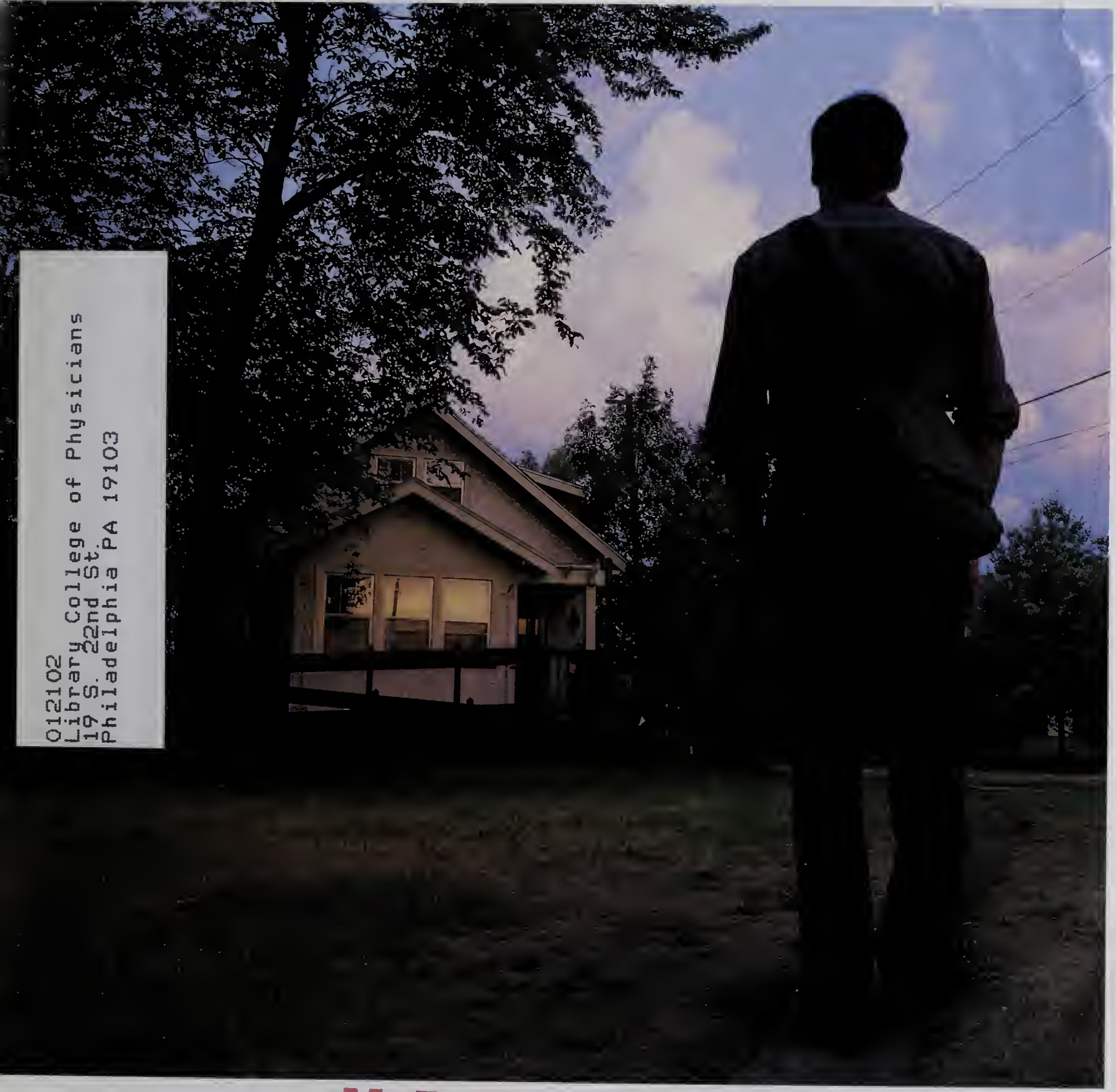

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SEPTEMBER 1988

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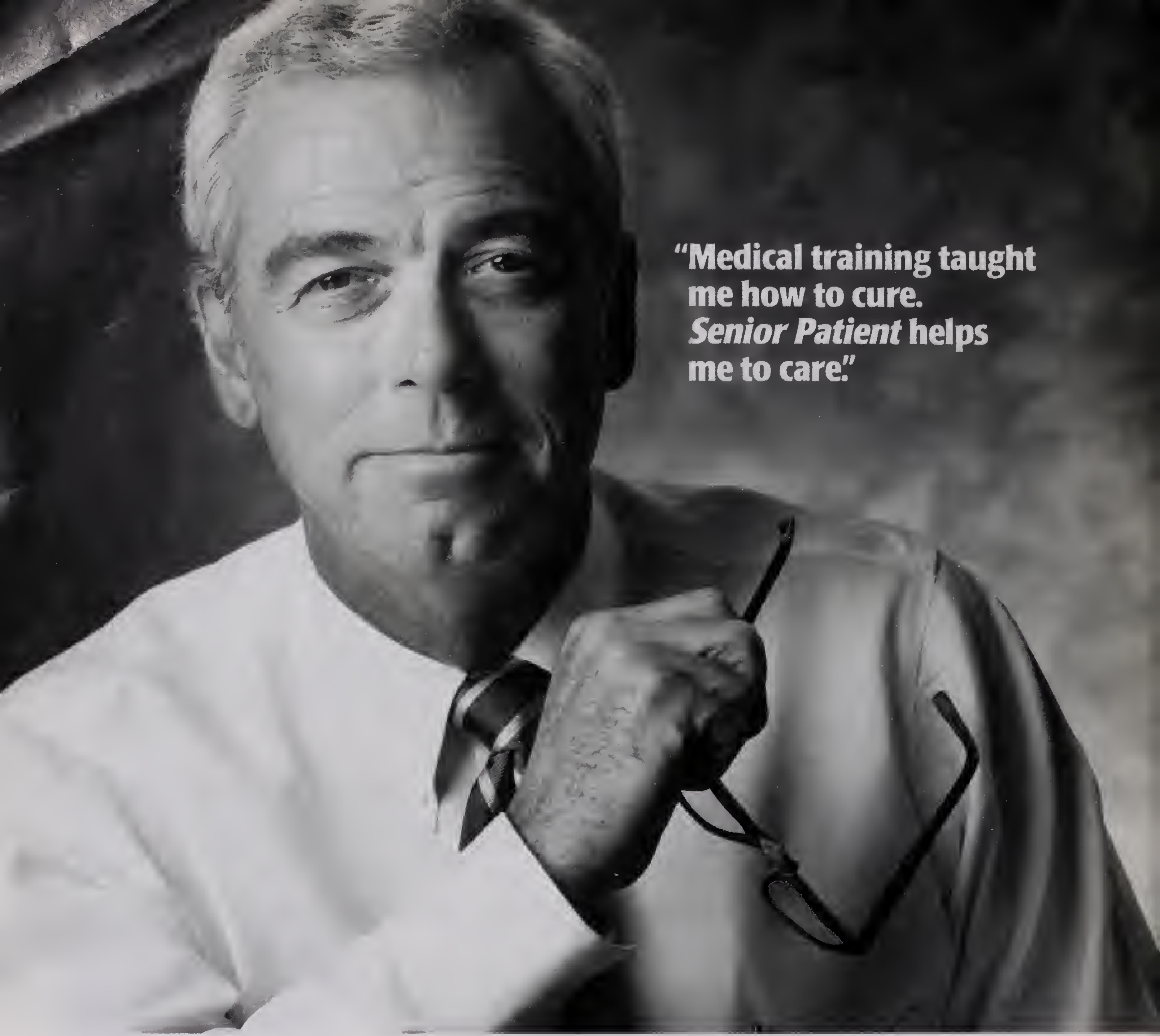
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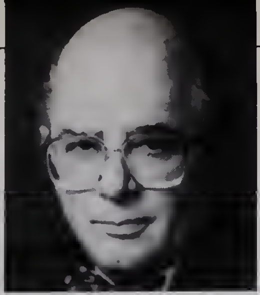


RICHARD L. REECE, M.D.

## EDITOR'S NOTEBOOK

# Michael Dukakis and the Politics of Massachusetts Medical Care

> **"Some critics say Dukakis has changed his approach to the state because of his presidential candidacy. Republican state chairman, Ray Shamie, for example, says he thinks the health-care bill is a good example of using local politics for presidential gain."**
> ***Boston Globe Magazine*, June 17, 1988**

> **"All politics is local."**
> **Tip O'Neal, *Man in the House*, 1987**

Falmouth, Massachusetts — I'm enjoying reading the political news about the Democratic National Convention in Boston papers. In those papers, Michael Dukakis emerges as a moralistic technocrat. He often uses the words "shame" and "disgrace" to describe his opponents' policies. Meanwhile media admirers call him "steady," "competent," "cautious," and "caring." What Massachusetts doctors call Dukakis I can't print.

But, say what you will about Dukakis and call him what you want, he has political savvy on health care issues. His technique is to seize the moral high ground of universal coverage. Meanwhile, he lets a mixture of regulation (he is against balanced billing and has permitted malpractice rates to rise) and competition (he is four score for HMOs) do the dirty work of shaking out the medical system's overcapacity. Health care analysts are saying a dozen of Massachusetts' 107 hospitals will close in the next few years, and perhaps 10 percent of its 16,500 practicing physicians will leave. The governor and his staff privately acknowledge the inevitability of these losses and are often quoted as saying "competition" will determine survivors.

Dukakis is fond of placing his two-fisted approach of tough regulations and subsidized competition under the rubric of "leveraged liberalism," or "public-private partnership." His approach is, of course, for the "good" of the people, and it is done because it is "right."

As Edward Reilly, former Gephardt pollster, observes of Dukakis:

"There is a tone about his politics, which is basically: 'I am right, and if you agree with me you are right. But if you disagree with me, not only are you wrong, but there is an immorality in your position.' "

Dukakis' moral health care stance is tough to counter because it's rooted in pragmatism. There are, after all, only about 20,000 potential physician voters, and 600,000 underinsured or uninsured Massachusetts residents. Besides, who can argue with the central thesis of the Massachusetts Universal Health Plan, which says that all citizens ought to be covered by health insurance? And who can dispute his argument that everybody—government and business—ought to share the expense? And finally, harking back to earlier Dukakis-backed laws, who can effectively debate the proposition that doctors ought not to be paid more than the Commonwealth of Massachusetts says these physicians ought to be paid by Medicaid, Medicare, Medicare gap insurance, workers' compensation, and Blue Shield?

Add to these debating difficulties the facts that the Democrats have a stranglehold on politics (Republicans haven't won a statewide office since 1978 and refer to their state as the People's Republic of Massachusetts), that academic medical centers get the lion's share of patients (teaching hospitals represent eight percent of hospitals, but take in 30 percent of revenues), and that practicing physicians tend to practice alone or in small groups (the definition of group practice here is two physicians sharing the same elevator), and you begin to appreciate the problems of organizing effective political opposition to Dukakis.

Nevertheless, the Massachusetts Medical Society (MMS) has mounted an effective public-relations effort to inform Massachusetts citizens of the consequences of Dukakis' policies. Here, in summary, are facts MMS-sponsored surveys and polls have found:

► More than 85 percent of Massachusetts' hospitals are recruiting physicians to fill gaps in their coverage. Of these hospitals, 90 percent report difficulties recruiting, mainly because of poor economic conditions for physicians and the reputation of Massachusetts as an "anti-physician state."

► Over 30 percent of high-risk specialists—obstetricians, orthopedic surgeons, or neurosurgeons—are quitting, cutting back services, avoiding hospital practice, or otherwise altering their practices because of dissatisfactions over malpractice expense, overhead

**Notebook** *to page 527*

# The Massachusetts Medical Morass:

## A Conversation with Joseph O'Connor, M.D., President of the Massachusetts Medical Society

**REECE:** *Dr. O'Connor, you're the new president of the Massachusetts Medical Society. How long have you held that position, and how long have you been active in the affairs of the society?*

**O'CONNOR:** I've been president since May 21, 1988. I've been active in the medical society for about 20 years. I was vice speaker for two years and vice president for two years. Last year I was president elect. Until I became president, I was in the active practice of internal medicine, but I have now retired from clinical practice so I can spend full time at being president of the medical society.

**REECE:** *The time has come for the medical society to have a full-time president?*

**O'CONNOR:** Well, at this critical period, the demands of the job were calling for a full-time person. Also it was about the right time for me to stop seeing patients. Finally, the climate of practice in this state requires a physician executive. Younger people will no doubt follow in this job. They will bring a different perspective to the job.

**REECE:** *You mentioned the "climate of practice" in Massachusetts. From my vantage point and the vantage point of the rest of the country, that climate could be described as turbulent. In fact, in October, 1987, the Massachusetts Medical Society Council passed a resolution stating that Massachusetts was "an undesirable location in which to practice."*

**O'CONNOR:** That was a memorable statement. We've been criticized for it. In fact, recently, we were accused of orchestrating that kind of attitude. That's not true at all. That was a resolution of the council, our "house of representatives," with each councilor representing 25 doctors. I was on the platform when the resolution came up, and there was absolutely no stopping it. We didn't even try. We did try to modify the language. Even that didn't work. It was completely a grassroots feeling. That

**O'Connor** *to page 559*

**JOSEPH J. O'CONNOR, M.D.**

*Waltham, Massachusetts — When you read Massachusetts newspapers, you gain these impressions:*

- *Physicians are sinking in a swamp of declining incomes, mounting regulations, and rising malpractice expenses;*
- *Physicians are bailing out of the swamp by minimizing their practices, retiring, or switching careers;*
- *Physicians, disgusted or in despair by the extent, depth, and smell of the swamp, are abandoning Massachusetts practices, not staying after training, or not entering practice here from elsewhere.*

*Such newspaper accounts of the Massachusetts' medical morass and consequent malaise don't leak out by chance.*

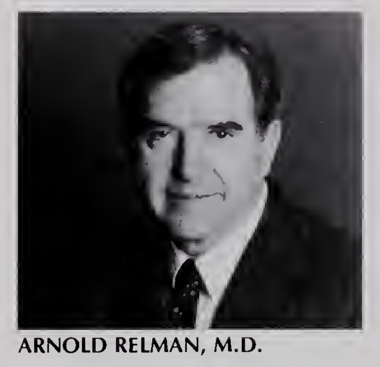
*Joseph J. O'Connor, a retired internist and cardiologist who is now the first full-time president of the Massachusetts Medical Society in several decades, and his staff have been filling the swamp by flooding the press with information about the sad state of practice in Massachusetts. The philosophy of the society seems to be: When you're up to your ass in regulatory alligators, don't drain the swamp of bureaucrats; drown the alligators by force-feeding the public hard facts about the true realities.*

*Dr. O'Connor is a pleasant, but tough, chief executive with exquisite taste in his dress (i.e., he wears bow ties). He has a thinning head of white hair and wears rimless glasses. He is charming, comfortable with himself, and forthright with his opinions. He doesn't indulge in political name calling (by denigrating the policies of Governor Dukakis, for example), but he makes it clear he thinks Massachusetts regulatory policies contribute to physician dissatisfaction and a decline in the quality of Massachusetts medical care.*

*Dr. O'Connor and the Massachusetts Medical Society are using surveys, opinion polls, and other fact-gathering methods to show how deeply physicians' morale and patient access, and quality of care are affected. This approach has angered Blue Cross-Blue Shield officials and government bureaucrats, who believe O'Connor and the society paint too black of a picture of medicine in Massachusetts. But Dr. O'Connor, as you will read in this interview, believes the effort is worth it.*

# Countdown at Boston's Countway Medical Library: An Interview with Arnold Relman, M.D., Editor of *New England Journal of Medicine*

**REECE:** *Dr. Relman, you've been editor of the New England Journal for 11 years. Why don't we start by asking you the nature of modern scientific medical journalism. How has it changed during your tenure?*



**ARNOLD RELMAN, M.D.**

**RELMAN:** It has changed in many ways. First, the science has become a lot more sophisticated, a lot more molecular. The good, old-fashioned, relatively simple kind of clinical investigation, which filled journals like ours in previous decades, has now been replaced—not totally, but considerably—by a much more sophisticated kind of research at the molecular level. And even the purely clinical investigation is full of high-powered, statistical, and epidemiologic technology that requires a much different approach. Second, the research that we publish is much more in the public eye now than before. Much of what we publish is of great interest to the public and to the media, more than I ever imagined when I took this job. We deal with the public and with the media and with the government, because the scientific articles that we publish have implications not only for the treatment of disease, but for public policy and economic and ethical issues. So, it's a different kind of job now. I hadn't quite imagined that it was going to be as changed as it is.

*Boston, Massachusetts — Arnold Relman ranks as America's most renowned medical editor, and, in my view, as America's most influential writing editor. What he writes, people read. He has edited the* New England Journal of Medicine *since 1977. In 11 years, he has helped build its circulation from 150,000 to 230,000, made it a financial success with revenues of $30 million, established it as the main source of information of America's newsmakers and policymakers, staked out its position as the strongest defender of the "profession" and its academic teaching centers, and expanded its already lofty reputation as the leading medical scientific journal in the Western world.*

*As we spoke, Dr. Relman was courteous, thoughtful, patrician, and intense. As I tossed him questions, he listened carefully, furrowed his brow, and knit his eyebrows together. Then he threw back the answers—with clarity, force, and eloquence—as if propelled by the strength of his convictions, the rightness of his causes, and the logic of his arguments.*

*To me, Relman's message was this: American medicine is engaged in a countdown that will culminate, preferably sooner, but probably later, in a national health plan. This plan will combine the virtues of the wisdom of America's medical and academic leaders, equity and access for all, shared responsibilities of cost by all, measurable medical outcomes with reward for the best, and preservation of the professional integrity of physicians and health care institutions. In this new professional environment, physicians will work for salaries in groups, will be paid by prospective arrangements, will govern themselves and set their own standards, and will judge themselves by measurable outcomes of performance.*

*To Relman, this dream and these goals are not so wild, for they are right, for the profession and the public.*

**REECE:** *Three incidents spring to mind when I think of the journal in the media spotlight. First, the famed breast lumpectomy article, second, the recent aspirin article, and third, your tiff with the Harvard Business Review over the role of for-profit hospitals. Could you briefly touch on these incidents? First, the breast lumpectomy.*

**RELMAN:** The lumpectomy incident is an example of the intense interest of the media and the public in medical developments. We no longer can review an article quietly and privately and consider it a scientific issue. It's often a public policy issue. While we were

*continued*

reviewing that lumpectomy article, the *Wall Street Journal* was publishing editorials and op-ed pieces about it. They knew all about it, and they were railing at our delay in publishing what they believed to be a terribly important article; one of great importance to women with breast cancer.

Our referees, however, looking at the first version of the article, were of the opinion that it really needed another year of follow-up. The data were not decisive enough, and the issue was too important to publish a paper that was preliminary. We had already published another paper from another group on the same subject which had suffered from the same limitation. So we asked for another year of follow-up, which meant the final decision on the article was delayed.

Meanwhile, we were being castigated by the *Wall Street Journal*. It was an awkward and a difficult time for us, but I think we did the right thing.

The aspirin study was a case where we believed the news was so important, although preliminary, that it needed to be published. We did everything we could to get that article out quickly. The total elapsed time from receipt of the manuscript to publication was five weeks.

**REECE:** *Which is very short by medical journal standards.*

**RELMAN:** Extremely short. The authors of the articles and the sponsors of the research (the NIH) were both of the opinion that the article should not be published and the results should not be announced until all the physician participants in the study had been fully informed. We were ready to go in four weeks, as it turned out, but the authors asked us to hold it up.

Nevertheless, when the report came out in five weeks, we were criticized in some quarters for delaying the release of that information. Some people took the position that the results should have been made public immediately, even before the paper had been reviewed.

We didn't think that was a valid criticism at all. It was the authors' decision to wait, and the NIH had concurred. As the FDA later pointed out, many questions remain unanswered, and it would have been a mistake to release the conclusions without all the evidence the doctors would need to weigh the pros and cons. Clearly, not everybody should be on aspirin to prevent heart attacks, and doctors had to have all the evidence in front of them in order to advise their patients.

**The wide-open, free-market, fee-for-service payment system that enabled the investor-owned hospitals to get rich in the 60s and 70s doesn't exist anymore.**

The third incident you mentioned, the *Harvard Business Review* controversy, didn't involve the *Journal* directly. We had previously published a couple of articles indicating that for-profit hospitals were not more efficient than not-for-profit hospitals. The costs of the for-profits were greater, not less. And their charges for comparable services were greater. And for-profit hospitals took care of fewer charity patients.

The piece in the *Harvard Business Review* took an entirely different position. It came to the conclusion that the investor-owned hospitals were more efficient, provided as many social services, and did as much charity as the not-for-profits. The authors suggested that the not-for-profit hospitals couldn't justify their tax exemption and they said that maybe lawmakers ought to reexamine the question of tax exemption for not-for-profits.

Now, as someone interested in the issue, I took exception to that article and I wrote a letter to the editor. I do so as a private citizen and not in my role as editor of the *New England Journal of Medicine*.

Professor Hertzlinger, the senior author, and I had an exchange of views. We still can't agree. I'm convinced she's wrong and that her study is fallacious. And, I might say, most students in this field—economists, health policy experts—who've looked at the issue, also feel that her study is flawed and that her conclusions are not valid.

The *New England Journal of Medicine* often deals with topics of this kind. We devote 20 percent of our pages to articles dealing with public policy, ethical issues, legal issues, and economic issues. These matters are very controversial. As editor, I try to be a fair moderator. I try to present a balanced view by publishing letters and articles that take different points of view. But I can't avoid having opinions of my own. When I express my view, however, I express it as a personal opinion in a signed editorial and I don't let my own preferences influence my editorial judgment in deciding what other articles and letters on the subject I'm going to publish. The *Journal* is an open forum; it takes no official stand on any controversial public policy issue.

**REECE:** *Eight years have passed since you wrote your "new medical-industrial complex" article in the* New England Journal. *In that article you warned of the dangers of proprietary interests in medicine. You pointed out then that 35 to 40 billion dollars were already expended in that sector. Have your fears become true? What, in your mind, has happened in the last eight years since you published your "medical-industrial complex" piece?*

**RELMAN:** In some ways, my concerns have been born out, and in some ways, not. There's no question that investor-owned enterprise has become an important part of the American health care system. However, the investor-owned hospitals have not continued to increase at the rate they were growing when I wrote that article. I had been concerned about the possibility that by the end of this decade we might see a situation in which the investor-owned hospitals dominated the country. That hasn't happened. It hasn't happened because the hospital business is not a good business anymore. With prospective payment and all sorts of cost controls, it's no longer easy to make a profit by owning hospitals. The wide-open, free-market, fee-for-service payment system that enabled the investor-owned hospitals to get rich in the 60s and 70s doesn't exist anymore. And the use of hospitals has gone down. So the attractiveness of the hospital business to the investor community is much less.

However, investors have moved into the outpatient area and we now see investor ownership of HMOs, clinics, diagnostic centers, and ambulatory services of all kinds. So that's continued to grow.

What I really hadn't anticipated, and what worries me increasingly, is the involvement of the medical profession in all of this. I had hoped that the medical profession would stay out of the investor-owned sector, that they would stand with the patients on the consumer's side, not on the seller's side. I had urged that doctors ally themselves with their patients' interest, and confine their income to whatever remuneration they would get by salary or fees from taking care of patients or supervising the care of patients. But, unfortunately, in many parts of the country, under the increasing economic threats to their livelihood and the increasing competition, many doctors have gone into business and now have financial interests in the products, the facilities, and the services that they prescribe. I think that's a dangerous and unfortunate trend.

REECE: *You seem to be saying, to paraphrase Lord Asten, that business corrupts and association with business can corrupt absolutely.*

RELMAN: I believe in free enterprise, and I believe in capitalism. I don't want to see the American economy socialized. However, I do believe that the for-profit philosophy is not well suited to the health care field. I don't believe that health care should be viewed as an industry. Health care is not an economic product like other economic products. And the function of a doctor is quite different from that of a businessman.

REECE: *And that function is as an advocate for the patient?*

RELMAN: Exactly. Businessmen act ethically when they provide a good product at a fair price, promote it honestly, and allow the consumer to decide whether the products they sell are worth the money. Businessmen have no responsibility to advise the consumer on what to do. They don't represent the consumer.

**Health care is not an economic product like other economic products. And the function of a doctor is quite different from that of a businessman.**

In the health care field the consumer is not able to judge adequately the value of the services he receives, or even whether he needs them. He's not paying for them himself—a third party is usually paying—and he has to rely on the integrity and dedication of a physician to advise him as to what he needs, and what ought to be done.

So the situation is entirely different. Free market principles simply do not apply to medical care. The practice of medicine is based on the Samaritan tradition. My concern is that when you try to make what is basically a social service and a professional relationship between a doctor and patient into a business, you have a clash of two incompatible cultures and two incompatible sets of values. In my opinion, that is one of the main problems the American health care system is facing today. We can't decide. We don't have a clear vision of what we want our health care system to be. Do we want it to be a business, or do we want it to be a social service?

REECE: *Certainly we've seen a clash of cultures in the Twin Cities between IPA physicians and their management. In central Massachusetts you have the same problem; physicians rising up against businessmen who are running an IPA for profit. It's a clash of cultures. Do you regard attempts so far to convert medicine to a market economy as failure?*

RELMAN: Yes, I do. I think it's an unqualified failure. Judged by any standard you wish to apply, it's not working. Let's take the most obvious standard — cost-effectiveness and cost control. In this decade of free market approach to health care, and encouragement of competition, and involvement of investor-owned companies, what have we seen? Health care costs continue to go up unabated at the same rate they've been for the last 20 to 30 years. There's not the slightest suggestion that we're controlling health care costs.

On the question of equity and access, we're much worse off than we were before. In a system that tries to emulate the free market, those consumers who haven't got the money to purchase the services are out of luck. The system has no interest in consumers who can't pay or don't have third-party payers.

So what we've seen is a gradual trend towards more and more disenfranchisement of the uninsured and the poor. We have a system in which the costs are going up unabated just as before — in which poor people and uninsured people are increasingly being excluded. There's growing evidence now that this is producing significant health care problems for the poor and uninsured.

Nobody is happy with it. The doctors are very unhappy. The morale of the medical profession and the confidence of patients in the medical profession are eroding. The payers are unhappy. I can't see that we've gotten anything good out of this new approach to health care. Clearly, it's a failure.

REECE: *What about the Dukakis approach, the universal health care law in Massachusetts, which passed in April?*

**Relman** *to page 556*

# LETTERS TO THE EDITOR

## AIDS: The Need to *Stop* Transmission

After reading the May issue of *Minnesota Medicine*, dedicated to the subject of AIDS, I was saddened by the overall content of the journal. There seemed to be, laced throughout the journal, the implication that one must be accepting of homosexual behavior in order to be compassionate and to adequately manage this disease. Certainly we can be compassionate when we care for those who suffer from emphysema without supporting the behavior that caused the problem in the first place. Likewise, we can show compassion to those injured in car accidents, even though the driver is inebriated, without supporting drunk driving. I certainly agree that we need to be compassionate to those who suffer from the disease AIDS, but, in our efforts not to offend the homosexual community, we continually downplay the role that homosexual behavior plays in the spread of the disease. Statistics clearly support this role. If the estimates are correct, there are 20,000 people in Minnesota who are infected. Approximately 19,000 of these haven't any idea that they are infected and are contagious. If we had another disease that was infectious, fatal, and identifiable, there would be all-out efforts to find those carriers and to keep them from spreading it to the rest of the population.

Particularly disturbing is one of the official recommendations listed in the objectives for 1988 that "persons who are infected with HIV should know ways to limit transmission." They don't need to limit transmission, they need to *stop* transmission. This is a fatal disease. People who will not be responsible in their sexual behavior when they carry this deadly virus must be separated from the public.

I am sure there are many physicians in Minnesota disturbed by the way this disease is being handled (from a public health perspective). We, along with most of the population, know that homosexual behavior is not normal, and now it has been proven to be exceedingly dangerous—possibly more dangerous than cocaine. I certainly am not advocating the use of cocaine, but any educational efforts that do not clearly make this connection apparent would be like trying to stop the spread of malaria while ignoring the mosquito.

Yes, we need to address the subject of AIDS, but we need to address it squarely. We need to identify those infected so they will have the opportunity to stop the spread. As a medical society, we must accept this responsibility. We owe it to society.

*Neil A. Skogerboe, M.D.*
*Bemidji Clinic, Ltd.*
*Bemidji, MN*

## Quality Assurance and Health Care: The Responsibility is Ours

In any purchase, the consumer's goal is to get the highest possible quality product or service at the lowest possible cost. This is no less true in health care than in other endeavors. The purchaser of a new automobile of a given make will likely get the same basic product no matter which dealer he or she selects and will therefore focus on the lowest cost. Imagine the automobile business being like health care, with the same car having markedly different quality depending on where you buy it, and you, the purchaser, having no realistic way to judge the quality. Compound this with the fact that your bill is usually paid by a third party, so that, frequently, your employer, your insurance company, or the government is left holding the bag, possibly for a poor product.

This points out where the health care business differs from almost any other business. In an effort to control cost, society has attempted to control two factors in the cost formula, which is: total cost = cost per unit (fee) × number of units (utilization).

Attempts to control cost are well-known to all of us. Cost control has reached its peak in hospital prospective payment and physician capitation where hospital and physician are, for all intents and purposes, paid not to provide care. The flip side of the cost control coin presents the dangers of underutilization, premature discharge, and poor quality care. Thus, there is a need to assure society of the quality of care, including objective quality assessment and quality maintenance. The bottom line of all of this is that fee controls, utilization control, and quality assurance are here to stay.

To most people, it is logical that the people who have the greatest ability and training to judge the quality of medical care are physicians. Yet, many of us abrogate this responsibility and complain when someone else fills the void. It is my opinion that, in the hospital, the pathologist is in a unique position to lead quality assurance activities. The pathologist is generally in the hospital, is trained in quality control, is knowledgeable about disease processes, and, perhaps most importantly, is not in a competitive position with the physician who has provided the medical care. It is my hope that Minnesota physicians will recognize their responsibility and opportunity, and educate themselves in this discipline so that they can become an even more valuable resource for society.

*Thomas A. Stolee, M.D.*
*President*
*Minnesota Society of Clinical Pathologists*
*Minneapolis, MN*

## Crisis in Nursing

My compliments to you and your staff for doing such a fine job on the "Crisis in Nursing" feature article in *Minnesota Medicine*. Your choice of pictures—especially the front cover—was excellent. Your portrayal of the nursing profession was accurate and sensitive.

*Diane Hiemenz Amer, RN*
*Staff Specialist*
*Public Relations*
*Minnesota Nurses Association*
*St. Paul, MN*

## Notebook from page 521

burdens, overwork, or regulatory harassment.

Discontent at the grassroots level among physicians is so high that, in October, 1987, the Massachusetts Medical Council, the counterpart of Minnesota's House of Delegates, passed a resolution declaring Massachusetts "an undesirable location in which to practice." Why? For a variety of converging reasons—state laws that limit income from most third parties, malpractice rates that continue to climb, mounting practice overheads in a state with an already extraordinarily high cost of living, hostile Blue Shield/Blue Cross organizations controlled by the legislature, a punitive state legislature that favors heavy handed regulation, a growing HMO industry heavily influenced by the Blues, and an unsympathetic governor and potential president who favors universal mandatory assignment.

Given this environment, Massachusetts physicians are taking their message to the public that access to quality care is threatened because Massachusetts physicians have no choice but to cut back or pull out. ■

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AIR FORCE

# The PRO
# Another Knife in the Heart

*Richard W. Dinter, M.D.*

Perhaps no one would disagree with the concept of quality assurance in health care. However, our current peer review process, designed to help assure quality, is fundamentally flawed because of its political vulnerability and review practices. In fact, it poses a threat to Minnesota's medical care system, particularly in rural areas.

The Professional Review Organization (PRO) is a private organization that bids for a contract from the federal government. The Foundation for Health Care Evaluation (FHCE) was awarded the peer review contract for Minnesota. The requirements of the contract change according to U.S. government dictates.

In the early 1980s, the PRO's focus was on reducing hospital admissions. The PRO found ways to discourage physicians from admitting patients and made retrospective denials of admissions. As the bodies began to pile up and complaints reached the press, "60 Minutes," and Congress, its focus shifted to monitoring physician performance.

In 1986 the first inkling I had that I was being reviewed and considered for sanctions was when a certified letter arrived with the following announcement: "Based on a review of two cases . . . FHCE has determined that you have grossly and flagrantly violated your obligations under Section 1156 of the Social Security Act to furnish services of a quality which meets professionally recognized standards of health care." The letter further states that the penalty to be imposed has already been determined . . ."the violations . . . are serious enough to warrant recommending to the Department of Health and Human Services sanction via exclusion from participation in the Medicare program for a period of *five years*."[1]

The salient point to be noted is that exclusion from Medicare for five years can amount to exclusion from the practice of medicine for a rural internist, surgeon, or family physician. Furthermore, the decision to enact the sanctions is based upon a review of two cases, not upon the physician's pattern or volume of practice.

## Case One

The first case involved a 71-year-old woman who was admitted to the hospital with a three-day history of chest pain. She was initially admitted to the ICU, where she underwent monitoring and routine orders to rule out a myocardial infarction. Subsequently, she was found to have evidence of gallstones and was taken to the operating room, where she underwent a cholecystectomy. The patient's postoperative course was complicated by an acute myocardial infarction, which was successfully managed, and she was discharged to home. Notes in the chart outlined the attending physician's impression that the infarct was postoperative and that the pain she initially experienced originated in the gallbladder. Furthermore, the discharge summary goes into great detail to delineate the sequence of events. The foundation's rationale letter, which includes for the physician's perusal a listing of the deficiencies identified and the evidence FHCE used in drawing its conclusions, makes the following points:

**The issue should not be whether one writes good notes, but whether one provides good care.**

### Foundation's Findings

1. EKG of 3/11/86, 8 p.m., demonstrates ST segment elevation too great to allow attribution solely to LBBB, which was a considerable change from the previous EKG of the same day. A definite acute inferior wall MI was in progress 12 hours prior to surgery.
**Rebuttal:** Subsequent review of the chart and hospital records indicate that the EKG was done on 3/12/86, not 3/11/86 and was a postoperative EKG.

2. CKMB borderline at first rose to 33 prior to surgery.
**Rebuttal:** The patient had been switched to IM Demerol after the diagnosis of gallstones had been made. The CKMB at that time was notoriously oversensitive and nonspecific and was subsequently replaced. This methodology had a 53 percent false-positive rate, and it was well known within the institution that the CKMB had marginal value.

3. 3/11/86 echocardiogram demonstrated wall motion abnormality.
**Rebuttal:** The report points out that the wall motion abnormalities were not a segmental defect, but rather a defect seen with an LBBB. Furthermore, a follow-up echocar-

Kathleen Berntson

diagram on 3/13/86 clearly demonstrated at that time that there had been a change and that there now was a segmental defect. This was overlooked by the PRO.

4. 3/11/86 progress notes: patient continued to have pain in the chest, epigastric area, and arms.

5. 3/11/86 nursing notes: arms tingling with chest heaviness, pain in chest is sharper.

**Rebuttal (4, 5):** The patient was indeed continuing to be symptomatic. This was the reason she underwent surgery in short order. The nurses' notes also indicated that the pain was right upper quadrant in origin and was more painful when the patient was palpated in this area. Furthermore, an EKG obtained during her symptoms was unchanged from baseline EKG.

6. Patient was being treated with morphine sulfate and sublingual nitroglycerin from 3/10-3/12 and work-up was proceeding in CCU. Patient was unstable yet was taken to X-ray for an upper GI and sonogram.

**Rebuttal:** The patient's enzymes at that point were clearly showing liver origin, and she was hemodynamically stable. The EKG during the pain did not show any changes. The patient, therefore, was taken to X-ray for further diagnostic studies, which were successful in establishing a diagnosis of cholelithiasis.

7. The surgery was not an emergency; it should have been delayed.

- a. Afebrile
- b. Alk. phos. normal
- c. Bilirubin normal
- d. WBC normal
- e. Biliary tree normal
- f. Not jaundiced
- g. Stones noted
- h. Cardiac situation should have been resolved before the surgery was performed.

**Rebuttal:** The patient's liver enzymes showed an elevation of the GTT, which is a more sensitive indicator of biliary tract disease. At the time of surgery the biliary tree was clearly not normal because a stone was found in the cystic duct and was impacted. The surgeon's note clearly demonstrates this. The cardiac situation had been resolved prior to performance of surgery. Surgery was performed because of the patient's ongoing symptoms.

The point to be noted here is that in an attempt to reduce a complicated and unclear situation to one that is clear and uncomplicated, the PRO reviewers are as vulnerable as the rest of us to perceptual block. They can select data to fit a hypothesis and generate a proof for the hypothesis. For instance, although the critical EKG was not dated, the reviewers assumed that it was a preoperative EKG, since that would confirm their hypothesis that a patient with an acute myocardial infarction was sent to surgery. Furthermore, even adequate and extensive documentation of what was thought to have occurred did not dissuade the reviewers from recommending extreme sanctions.

### Case Two

The second case resulting in a request for sanctions involved a 70-year-old man who had undergone balloon angioplasty of his coronary arteries two weeks previously. The patient presented with a perforated duodenal ulcer requiring emergent surgery, and he developed a post-operative myocardial infarction. He had marked electrical instability and had 15 cardiac arrests in the first 24 hours. He was repeatedly and successfully resuscitated and finally stabilized on Pronestyl, Bretylium, Dilantin, and Lidocaine. He had problems with hypotension and low cardiac output, which were managed with Swan Ganz catheterization and Dobutamine. The patient's electrical and hemodynamic status stabilized, but his chronic organic brain syndrome became worse. After several days of electrical stability, his medications were discontinued, but his mental status did not improve. When his electrical instability returned, he was transferred back to the ICU, where the addition of Tonocard, Pronestyl, and Dilantin was unsuccessful in completely controlling his arrhythmias. Electrophysiological study was considered, primarily for the purposes of Amiodarone therapy, but the family declined this option (family discussions not documented in the chart). The patient was subsequently discharged to home. FHCE raised the following objections:

### Foundation's Findings

1. The patient had been treated with Lidocaine for ventricular tachycardia in the ICU 15 hours prior to being discharged home. FHCE questioned whether or not the patient was in a stable cardiac rhythm at the time of discharge.

2. The patient was placed in an unnecessarily high-risk situation by discharging him to his home directly from the ICU without any rehabilitation or effort to determine if he was able to be up out of bed. Patient was never transferred to a lower level of care to determine if he was stable for discharge.
3. There is a lack of documentation regarding the discharge planning. No home health care was ordered. The patient's wife was elderly. We were unable to determine if she was capable of caring for the patient. The patient had been incontinent and disoriented.

**Rebuttal (1-3.):** The patient's wife precipitated the discharge by calling the consulting physician at home Friday evening and demanding her husband's discharge in the morning, so that his mental status could clear up. The patient had therapeutic drug levels and normal electrolytes. Transfer for purposes of EP study already had been refused. The patient was then progressively ambulated and discharged in the morning by the on-call physician. The patient did remarkably well at home and returned to the care of his usual physician in Duluth. Telephone conversations with the wife were not documented in the chart, unfortunately.

In this case, the key point is that there was absolutely no question about the quality of medical care rendered to the patient. The major questions revolved around whether he had been "dumped" out of the hospital.

In other words, there were several hundred critical decisions made throughout this patient's stay, and all of them were appropriate and not in question. However, one decision—to discharge the patient—was in question. The reviewers felt this decision was serious enough to warrant suspension of medical privileges for five years.

This says to me that anything less than perfect medical care is unacceptable. In the past, malpractice lawyers have not been able to achieve this degree of expectation, but, under the FHCE, this has become the standard for medical care in 1987-88.

Furthermore, the decision to remove a physician from the practice of medicine does not consider the volume and intensity of his or her patient load. This is confirmed by FHCE, which told me, "You were correct in your comment that these actions were based upon the review of two cases. Also, you were correct in your comments that there is no denominator in this equation. As I am sure you will agree, poor medical care is poor medical care regardless of the denominator of the equation. It has not been the attempt of PROs across the country to establish an allowable percentage of poor medical care."[2]

Notably, the decision to suspend practice is not based on an overall style of practice or outcome, but on a single decision that is retrospectively questioned. Medical practitioners well know that when a case begins, there is a great deal of gray area, which, if all goes well, will become sharper shades of black and white. There has never been a diagnostic test or a clinical trial that provides results that are 100 percent accurate. Yet, FHCE demands just that: no ambiguity.

Fortunately, in the two cases I've described, the problem was one of the review process rather than the patient's care. But we should not be so sanguine as to assume that there is never an error in medical management. It is impossible not to have some error in a field that involves as much judgment and interpretation as medicine. While 10 errors per 10,000 patient-days may be unacceptable, 10 errors per 100,000 patient-days may be unavoidable. Zero errors are impossible.

It could be argued that better documentation would have circumvented the reviewers' objections. However, the issue should not be whether one writes good notes, but whether one provides good care. Traditionally, progress notes have been used to justify interventions and chart the patient's progress. In the review process, adequate documentation presupposes that you know what the question will be. Documentation explaining why the patient was admitted or why the patient was intubated at a particular point in time will not help you if the reviewers' question is why wasn't

# In moderate depression and anxiety

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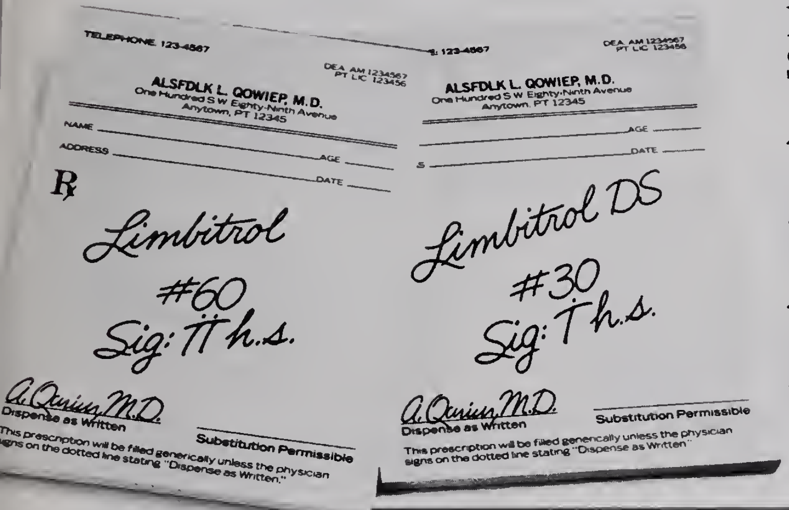
- First-week improvement in somatic symptoms[1]
- 50% greater improvement with Limbitrol in the first week than with amitriptyline alone[2]



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DEA AM 1234567
PT LIC 123456

ALSFDLK L. QOWIEP, M.D.
One Hundred S W Eighty-Ninth Avenue
Anytown, PT 12345

NAME
ADDRESS
AGE
DATE

℞

Limbitrol
#60
Sig: ĭĭ h.s.

A. Quiniz, M.D.
Dispense as Written

Substitution Permissible

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DEA AM 1234567
PT LIC 123456

ALSFDLK L. QOWIEP, M.D.
One Hundred S W Eighty-Ninth Avenue
Anytown, PT 12345

AGE
DATE

Limbitrol DS
#30
Sig: ĭ h.s.

A. Quiniz, M.D.
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# Limbitrol® DS

Each tablet contains 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) Ⓘⓥ

**References:** **1.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Feighner VP, *et al: Psychopharmacology 61*:217-225, Mar 22, 1979.

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**Limbitrol®** Ⓒⓥ
**Tranquilizer—Antidepressant**
**Before prescribing, please consult complete product information, a summary of which follows:**

**Contraindications:** Known hypersensitivity to benzodiazepines or tricyclic antidepressants; concomitant use with MAOIs or within 14 days of monoamine oxidase inhibitors (then initiate cautiously, gradually increasing dosage until optimal response is achieved); during acute recovery phase following myocardial infarction.

**Warnings:** Use with caution in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur when used with anticholinergics. Closely supervise cardiovascular patients. Arrhythmias, sinus tachycardia, prolongation of conduction time, myocardial infarction and stroke reported with tricyclic antidepressants, especially in high doses. Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving).

> ***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations. Consider possibility of pregnancy when instituting therapy.**

Withdrawal symptoms of the barbiturate type have occurred after discontinuation of benzodiazepines (see Drug Abuse and Dependence).

**Precautions:** Use cautiously in patients with a history of seizures, in hyperthyroid patients, those on thyroid medication, patients with impaired renal or hepatic function. Because of suicidal ideation in depressed patients, do not permit easy access to large quantities of drug. Periodic liver function tests and blood counts recommended during prolonged treatment. Amitriptyline may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady-state concentrations of the tricyclic drugs. Use of Limbitrol with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Should not be taken during the nursing period or by children under 12. In elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects. Inform patients to consult physician before increasing dose or abruptly discontinuing this drug.

**Adverse Reactions:** Most frequent: drowsiness, dry mouth, constipation, blurred vision, dizziness, bloating. Less frequent: vivid dreams, impotence, tremor, confusion, nasal congestion. Rare: granulocytopenia, jaundice, hepatic dysfunction. Others: many symptoms associated with depression including anorexia, fatigue, weakness, restlessness, lethargy.
Adverse reactions not reported with Limbitrol but reported with one or both components or closely related drugs: *Cardiovascular:* Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke. *Psychiatric:* Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania, increased or decreased libido. *Neurologic:* Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns. *Anticholinergic:* Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract. *Allergic:* Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus. *Hematologic:* Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia. *Gastrointestinal:* Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue. *Endocrine:* Testicular swelling, gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion. *Other:* Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

**Drug Abuse and Dependence:** Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlordiazepoxide; more severe seen after excessive doses over extended periods; milder after taking continuously at therapeutic levels for several months. Withdrawal symptoms also reported with abrupt amitriptyline discontinuation. Therefore, after extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and dependence.

**Overdosage:** Immediately hospitalize patient. Treat symptomatically and supportively. I.V. administration of 1 to 3 mg physostigmine salicylate may reverse symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.

**How Supplied:** *Double strength (DS) Tablets,* white, film-coated, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt), and *Tablets,* blue, film-coated, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 50.

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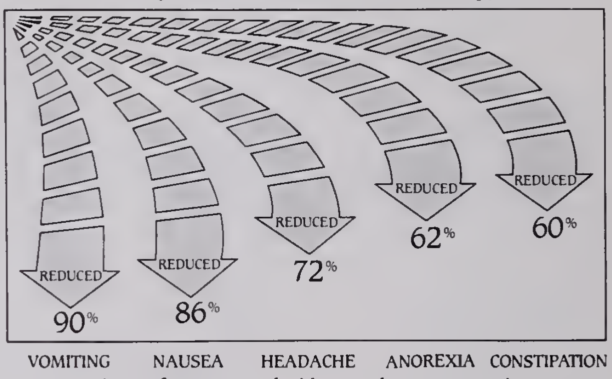
## And The Weeks That Follow

- 74% of patients experienced improved sleep after the first *h.s.* dose[1]
- First-week reduction in somatic symptoms[1]

Caution patients about the combined effects of Limbitrol with alcohol or other CNS depressants and about activities requiring complete mental alertness, such as operating machinery or driving a car. In general, limit dosage to the lowest effective amount in elderly patients.

Percentage of Reduction in Individual Somatic Symptoms During First Week of Limbitrol Therapy*



*Patients often presented with more than one somatic symptom.

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**Limbitrol® DS**

Each tablet contains 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) Ⓘⓥ

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Please see summary of product information inside back cover.

the patient admitted a day earlier, or why wasn't the patient intubated four hours sooner. Documentation that clearly demonstrates the need for intubation or the need for admission can actually be used against you if the reverse question is asked. Furthermore, the reviews are retrospective, often with two years between the time of the patient's admission and the time of review. As we have seen, the focus of the reviewers shifts with the Health Care Financing Administration's (HCFA) whims. Adequate documentation would require that the practitioner know at the moment he or she is writing the notes what HCFA would be concerned about in 1989 or 1990 and how to protect himself or herself against those concerns! This is no small task for a busy rural practitioner trying to keep up with an ever-increasing workload.

Additionally, most of the review process, especially in the later stages, is conducted in a metropolitan setting by metropolitan physicians, whose perspectives are different; their problems revolve around an excess of human and material resources and a wide variety of subspecialists. The rural physician deals with a scarcity of capital, equipment, and colleagues. Nonetheless, the rural physician addresses the same clinical questions and provides equivalent, if not superior, care. However, when there are only one or two physicians involved in a patient's care, the need for extensive notes as a form of communication becomes much less crucial than when there are five or six physicians involved in the patient's care. In the rural setting, most communication is carried out in the physicians' lounge, X-ray department, laboratory, and on the phone to tertiary consultants, rather than through the chart. This leaves no paper trail. The metropolitan system, because of its size and diversity, does not allow for this uniquely personal management style. Finally, we should recognize that physicians are subject to the same laws of physics as the rest of the universe, and minutes and energy expended satisfying the review process are then not available for patient care.

The frequency of review, which again operates against the rural physician, is another aspect of the process I question. On the surface, the requirement that 3 percent of hospital admissions be reviewed appears to be equitable and fair. But if you are the only physician in a rural hospital or you care for the sickest patients, 3 percent of admissions can equal 100 percent for you. Conversely, if you are one of several hundred physicians in a large metropolitan hospital, you could go for several years without being reviewed under this program. Even in a hospital with a staff of five to ten you will come under much more frequent PRO review than the metropolitan physician. This puts the rural health provider at greater risk of sanction and elimination.

If, in fact, the standard of care is one or two mistakes in your lifetime, over the course of several years the review process could systematically destroy the entire rural health care system, leaving behind only physicians who are afraid to care for any seriously ill individuals and whose course of action would be to transfer all patients to the metropolitan area so as to avoid any criticism of their care.

In fairness, I must acknowledge that since 1986 the FHCE administration has been sensitive to these deficiencies. Targeted physicians seem to be contacted earlier in the review process and more concern has been expressed about the overall care delivered. However, the fact remains that, by virtue of the contract bidding process, we now have a politically sensitive instrument to punish physicians. It would only take a shift in HCFA's emphasis to put all physicians at increased and inappropriate risk.

In fact, there has been testimony before the House Energy and Commerce Health Committee calling for such to occur. "To prevent needless deaths and injuries the government should urge PROs to step up sanction activity."[3] We are all just one "60 Minutes" or "20/20" expose' away from a new set of directives. Let us not forget the furor created by the "60 Minutes" episode on patient dumping at Parkland Hospital.

Before a new drug is released, the Federal Drug Administration requires rigorous testing for adverse side effects. In contrast, the PRO represents the latest of social experiments without regard to toxic side effects to the health care system.

**It is impossible not to have some error in a field that involves as much judgment and interpretation as medicine. While 10 errors per 10,000 patient-days may be unacceptable, 10 errors per 100,000 patient-days may be unavoidable.**

By all rights, Minnesota physicians deserve plaudits for holding together the fabric of an excellent health care system under unusual and excessive fiscal, legal, and societal pressures.

I sympathize with the FHCE in view of the impossible task it has been given; but let's not destroy our health care system in search of unattainable perfection or satisfaction of insatiable government and social critics.

*Richard Dinter is an internist practicing at the Mesaba Clinic in Hibbing, Minnesota. He is certified in critical care medicine by the American Board of Internal Medicine and is a member of the board of directors for the Mesabi Regional Medical Center. He was formerly chief of medicine at the center and has served on the quality assurance board there. Dr. Dinter is also a former president of the Range Medical Society.*

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Torture Victims

ROB LEVINE

# A Pathway to Recovery

## There may be as many as 6,000 torture victims living in Minnesota. The Center for Victims of Torture helps rebuild their lives.

*Miriam K. Feldman*

"When someone from Cambodia walks through your door, chances are they went through the death camps. If someone from Central America walks through your door, chances are very high they were tortured," Douglas Johnson says.

All health professionals should know that, says Johnson, executive director of the Center for Victims of Torture. If they don't know that an individual has been tortured, health professionals are likely to misdiagnose and give inappropriate care.

Increasingly, health care professionals are calling on colleagues to recognize that many torture victims are living in the United States and that they have special medical needs. This spring, the *Journal of the American Medical Association* reported that health care providers in countries of asylum, like the U.S., are more and more likely to come into contact with torture victims. The authors urged clinicians to understand and recognize the effects of torture.

Understanding and recognition are the first steps in the process of restoring dignity and a sense of well-being to individuals who were systematically brutalized and degraded for political reasons. Knowing how to properly heal them is another story. Today, a host of health care workers, including physicians, psychologists, and psychiatrists, are exploring uncharted areas of medicine, trying to define appropriate treatment and therapy for torture victims.

One of the few places in the world devoted exclusively to such investigation is right here, in Minnesota. The Center for Victims of Torture (CVT), now a year and a half old, operates out of a small, stucco house, tucked away in a quiet corner of the University of Minnesota campus. It is a place where torture victims can receive counseling and medical care, and where researchers can learn more about treating them. It also serves as an information and training center for people in Minnesota and throughout the world.

There is much to be learned about the treatment of torture victims. Johnson uses words like "cutting edge" and "state-of-the-art" to describe research in this young field. "Our strategy, thus far, is to develop an expertise. We haven't settled on a model of therapy. We need to have a research attitude—what works and what doesn't, and for whom," Johnson says. "We have to design the car, build it, and drive it at the same time. That's a complicated and difficult thing to do."

In many ways, CVT is a typical Minnesota enterprise—a product of this state's best humanitarian instincts and a "can do" spirit that asserts anything is possible. It has its origins, according to some accounts, in a conversation between Rudy Perpich, Jr., and his father, the governor. The younger Perpich reportedly challenged his father's commitment to human rights. The governor agreed to consider the issue, and a task force was formed with the guidance of the Minnesota Lawyers International Human Rights Committee.

Governor Perpich and some task force members traveled to Copenhagen in 1985 to tour The Rehabilitation Centre for Torture Victims, the world's first treatment center. The governor was impressed by what he saw, and, as the story goes, said, "We can do that." And so, with the governor's blessing—and a $300,000, three-year matching grant from the Northwest Area Foundation—Minnesota became home to the United States' first center for torture victims.

The center is deliberately inviting, furnished more like a home than a medical office. Brilliant wall hangings, crafted by artisans from around the world, adorn the walls. Colorful rag dolls made by Central American women sit in baskets and decorate shelves. Medical equipment is kept out of sight, so as not to remind patients of their torture experience, which frequently took place in medical settings in the presence of doctors.

The center's small staff—three full-time and four part-time employees—currently treats about 15 patients in long-term therapy. Another 77 receive some kind of treatment or referral. That's a fraction of the estimated 2,000 to 6,000 torture victims thought to be living in Minnesota.

Yet CVT's importance transcends the number of people it reaches directly. In addition to its mission to provide treatment, do research, and teach, the center is a symbol of hope to people who have been deliberately and willfully broken down by other people. "A center serves a lot of purposes. It's a symbol that breaks the secrecy of this kind of victimization," says Barbara Chester, the center's clinical director.

"One of the deleterious things of any kind of victimization is the secrecy. It is reinforced by the torturers who say, 'When you get out, nobody will believe you.' This counters that." At CVT, the victims' stories will be believed.

"Torture thrives in secrecy," agrees Johnson . "They [torturers] know that it's dirty and they want to hide it." One way to stop torture is "to expose this perversion to the rest of the world."

ROB LEVINE

**Douglas Johnson, executive director, the Center for Victims of Torture**

If anyone can do that, Johnson can. In 1977, he founded INFACT, the Infant Formula Action Coalition, which organized and waged an eight-year boycott of Nestle products. Nestle was selling infant formula in underdeveloped countries, risking the lives of infants who were fed formula mixed with polluted water, and denying women the right to give their babies nourishing, and free, breast milk. In 1984, Johnson moved on after Nestle signed an agreement saying it would abide by the World Health Organization's marketing code.

The 39-year-old director sees a parallel between his boycott efforts and his work at the center. Both, he says, involve the education of health professionals. At a minimum he hopes "to get health professionals to be aware that torture is a possibility."

Man's inhumanity to man is well documented, and torture is part of that history. Up until the 1880s, torture was an established part of the legal process. But, in 1808, with the establishment of Napoleon's *Code d'instruction criminelle*, torture started to wane and, by the end of the 19th century, had been virtually eliminated in Europe.

There was to be only a brief respite from the torturers, however. Soon, they systemized their villainy in Hitler's concentration camps and Stalin's Gulag Archipelago. By 1948, the world again had had enough, and the UN General Assembly adopted the Universal Declaration of Human Rights.

Those who monitor torture say it is again on the rise. Amnesty International, the human rights group that documents abuses throughout the world, reports that torture is practiced in 98 countries. Ten thousand people are tortured annually, according to its estimates.

In 1984, the UN General Assembly unanimously adopted the Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment. It defined torture as the intentional infliction of pain or suffering, either mental or physical, to extract a confession, to intimidate, or to discriminate. Torture differs from random acts of violence, because it is officially sanctioned and requires the "acquiescence of a public official or other person acting in an official capacity."

"The objective of torture is to destroy a personality. Not to get information," Johnson says. "That's certainly true of Argentina, where they release victims to strike terror in the broader community to keep it under control."

**"The objective of torture is to destroy a personality. Not to get information."**

"Torturers are aiming at the part nearest to your personality, which is your brain, and therefore they try to make you crazy. And they can," says Dr. Inge Kemp Genefke, founder of the Danish center for torture victims, which inspired Perpich. "That's what you have to understand about torture. That they're doing it because it's diabolical," says Dr. Genefke, who was in Minneapolis recently to receive the 1988 Human Rights Award from the Minnesota Lawyers International Human Rights Committee.

Dr. Genefke fears that torture is becoming more widespread, and more organized. She suspects that torturers attend international conferences on torture methods. She says she has no proof, but bases her suspicion on the similarity of torture methods reported in her clinic. "When we started this 15 years ago, there were differences in torture methods from one culture to another. Now it is fairly the same," she says.

"They [torturers] are skilled. They are trained, they are paid well, and they have holiday whenever they break down the torture victim," she says. According to Dr. Genefke, they also have something her center and CVT lack—money.

Because of its small budget, CVT can reach only a handful of the torture victims living in Minnesota. Yet Barbara Chester says that cannot be allowed to deter the staff. "A center serves a lot of purposes," she says. Treatment is one. But, she adds, "Our value lies in ultimately being able to train other people in the community." Until now, the center has not reached out to the medical community, but future plans include training medical volunteers and educating HMOs about the medical and long-range sequelae of torture.

There is not a large body of literature on the treatment of torture victims. What is learned at the Danish center is passed on to the center in Minnesota and vice versa. What the center passes on to the medical community, "in the end, has to be what's been learned here," Johnson says.

And what they've learned comes from people like Antony van Zyl, a young, white South African who was tortured in jail after he took pictures of two security policemen roughing up a young black boy. The center maintains a strict code of confidentiality, but van Zyl chose to publicize his story last year. (In fact, talking to the press was deemed part of his treatment.)

Like most torture victims, van Zyl's experiences defy comprehension. In fact, Dr. Neal R. Holtan, a physician who works part-time for the center, says, "I don't believe it's within the usual experience of most Americans to understand [torture]." Van Zyl was sprayed with a fire hose, shocked with an electric cattle prod, had a revolver put to the back of his head, was raped with a broomstick, and had a nightstick shoved deep in his mouth.

Torture victims endure "falanga," a practice in which the soles of the feet are beaten with rods until the legs swell up in the shape of a pyramid. They are struck in the ears—a torture known as "teléfono." They are suspended from rods by their hands or feet. They are beaten, kicked, and raped. They are shocked with electrodes.

Such mistreatment often results in rheumatism, arthritis, and hearing and dental problems—and it always leaves mental pain, which can manifest itself in physical symptoms. Barbara Chester has a client who was tortured severely in one arm. Now he gets a pain in the other arm—always at 3:30 a.m. and between 6 and 8 p.m. Through counseling, the client recalled that once, at 3:30 a.m., a guard threw open the door of his cell and started shooting at the people in it. At another prison, people were taken outside and randomly executed between 6 and 8 p.m.. She is teaching him to manage his anger—to use other physiological signals that let him know he's angry.

Many torture victims in Minnesota are natives of Cambodia, Ethiopia, or Central America. Typically, they are considered enemies of the regime, says Chester, although there is not always a political act that defines them. It almost doesn't matter what you do," she says. "It's who you are." It's much like Nazi Germany, she explained. If you were a Jew, or a Communist, or a homosexual, you were murdered. "In countries where there is torture, almost everything becomes political. So there's almost no way you're *not* political."

The Cambodians, for example, tortured members of the intellectual elite. Anyone who spoke French, wore eyeglasses, or didn't have calloused hands was suspect, Chester explained. In Chile or Paraguay, the poor, or those who served the poor, were suspected to be Marxists and were singled out for torture.

Torture induces physical, cognitive, and emotional symptoms, Chester explains. "Regardless of where someone is from, the symptoms are remarkably similar." Physical symptoms include headaches, joint pain, lower back pain, and sleep and appetite disturbances. Cognitive symptoms include impaired short-term memory and an inability to concentrate. Emotional symptoms range from severe anxiety, to irritability, to an intrusive reexperiencing of the torture event, to a psychic numbing, in which the victim feels nothing.

ROB LEVINE

Barbara Chester, clinical director, the Center for Victims of Torture

Of course, all of these symptoms can be experienced by people other than torture victims, but torture victims require different treatment. For example, many victims tend to look paranoid, Chester says, but unlike classic, textbook paranoia, a torture victim's actions are reality based. Without the knowledge that a person was tortured, his or her actions may be misinterpreted. "For the most part, we're dealing with a well-integrated person who went through an abnormal experience," Chester explains.

The appropriate treatment of torture victims is debated among health workers. Johnson calls it "an extremely rich debate." It is certainly a sign of how young the field is. Some argue that for purposes of psychiatric evaluation, the American Psychiatric Association's diagnostic category of post-traumatic stress disorder (PTSD) best fits the psychological condition of the torture victim.

Others argue that the PTSD diagnosis doesn't fit because it was designed for survivors of earthquakes, floods, and other accidents, whereas torture victims are survivors of deliberate destruction. There should be a special "torture syndrome," this group argues.

There is even a debate over the use of drugs. CVT uses drugs in therapy, whereas the Danish treatment center does not, because many victims are tortured with drugs.

As Dr. Holtan sees it, there is still much to be learned about treating torture victims. "Now it's the blind leading the blind," Holtan says. "We don't know the treatment modalities. It's a little bit trial and error right now."

Yet, some things have been learned. The need to build trust is one, Dr. Genefke says. Torturers humiliate their victims and then tell them nobody will believe their story, she says. "That's not true. They can say it to us. But we have to be trustworthy."

Once that trust is gained, treat-

**Torture** *to page 540*

# How to Treat Torture Victims

*Miriam K. Feldman*

Dr. Neal R. Holtan was perplexed by a number of his patients who never improved. They complained about all kinds of pains—chest pains, back pains, headaches. Medical tests disclosed no ailments. Medical intervention cured nothing.

These patients, however, shared something other than their nonspecific complaints. They all were refugees. And Dr. Holtan suspected that somehow their ailments were linked to their refugee status. He struck on the idea of asking them one question. Had they ever been tortured in their native country?

The answer was yes. Therein lay the key to their treatment and eventual recovery. "Until that was dealt with we made no progress on their other symptoms. Once recognized, some steps can be taken," says Dr. Holtan, who directs the International Clinic at the St. Paul-Ramsey Medical Center and works part-time for the Center for Victims of Torture (CVT) in Minneapolis.

If a patient was not born in the U.S., and is either an immigrant or a refugee, the question of torture must at least run through a physician's mind, according to Holtan. And if the question arises, it should be asked.

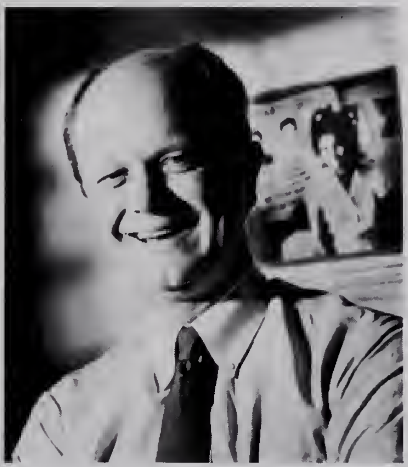
"It's such an unpleasant topic, no one wants to think about it, or talk about it," he says. "It's just like many of the other uncomfortable questions that need to be asked."

If they aren't torture victims, they won't fall apart and leave, and if they are, they are relieved, he explains. It's necessary for the successful diagnosis and treatment of the patient.

There's no one way to approach the subject, but "you have to be comfortable in the way you say it," says Barbara Chester, CVT clinical director. "Clients tend to be very, very sensitive to how they think people are going to react."

What works for Chester is to say: "People who have memory problems or bad dreams (common complaints of torture victims) have often been tortured and traumatized in their own countries. Is this something that has happened to you?"

Simply acknowledging that the torture happened is a great relief to the patient, Chester adds. "This lets them know this is something that has happened to other people. They don't have to be stigmatized."


ROB LEVINE

**Neal R. Holtan, M.D.**

Torture victims routinely should be referred to the CVT, where they will undergo a complete neuropsychiatric exam administered by people who understand their needs, Dr. Holtan says. Not only can the center accommodate their special needs, it needs the opportunity to work with as many torture victims as possible in order to accumulate enough experience to make plausible recommendations to other physicians, he explains.

Torture victims almost always have headaches or back pain. Physicians must understand that with torture victims, the symptoms they would see are non-specific—not typical of any syndrome, Holtan advises.

"I've seen patients with lots of bills from many medical centers. They go doctor hopping, " Holtan says. "The problem is, they're put through all kinds of diagnostic tests and nothing comes up. What they really need is for someone to understand their torture status."

The importance of knowing that a patient has been tortured was underscored by Chester. It matters that a physician know that someone's a torture victim, she says, particularly if they're doing hands-on medical work. Otherwise, the physician may do something that reminds the patient of the torture experience. A simple blood test can be traumatic to the individual who was forced to lick blood off the floor. An EKG can cause panic in a person who was shocked with electrodes. Something as seemingly innocuous as a medical intake can be reminiscent of an interrogation. A long wait to see the doctor, or a doctor's knock on the door can trigger anxiety.

It is also important to explain every medical procedure to a torture victim, particularly if it's going to be a painful one, Chester advises. Do whatever is possible to alleviate the pain, and always tell the patient what will happen next. A physician should also let the patient know that if the procedure gets too uncomfortable, the physician will stop and continue another time.

It is important to proceed with caution, because, as Chester explains, "Their whole body and their whole psyche has been in the hands of other people, and they couldn't stop what was happening to them." ■

**Torture** from page 538

ment involves psychotherapy to restore the mind, and physical therapy for the body. The Danish center treats the entire family, "if they're so lucky they have families," Dr. Genefke says.

**"The victim centers spring up because of our own needs. We need to do something humane which counteracts the torture. We have to have some activity which refuses to accept torture."**

Finally, because torture is often carried out in medical settings with doctors as accomplices, "You have to avoid everything that can bring back the bad memories," says Dr. Genefke. "We have to avoid all things that remind them of torture."

"Doctor torturers," as they are called, are an integral—and uncomfortable—part of this story. "There are more health professionals involved with torture than there are treating victims of torture," Johnson says.

"They couldn't torture today without the involvement of doctors and doctor torturers, because they have to avoid too many deaths, " Genefke says. Doctors determine if a person is fit enough to endure certain kinds of torture. They recommend against the use of electrodes if the victim has a bad heart. They monitor blood pressure. They tell torturers where to inflict pain so it will hurt the most.

Johnson wants to activate the medical community in Minnesota to counteract the work of doctor torturers. "We need health professionals to repair the damage," he says. His plans include training volunteers to work with torture victims.

For those who can't work directly with torture victims, he sees other roles. "Health professionals have a responsibility to be involved in human rights in the same way lawyers are in Minnesota. It's a professional responsibility," he says.

Physicians can exert pressure on governments that practice torture, Johnson says. "The pressure of international human rights groups does provide some deterrant to the worst abuses of the military." When someone is looking over the torturer's shoulder, the victimization tends to diminish.

Even as the efficacy of appropriate interventions is being debated, it is possible to measure success in treating torture victims. One measure of success, says Chester, is that victims begin to exhibit some affect, where at first they showed no discrimination of feeling. Before treatment, things were either bad or good—with nothing in-between. "By the time they leave, they can talk about grief, anger, sadness, and excitement."

"Becoming asymptomatic is a measure of success," Johnson says. "The nightmares stop. They can concentrate. They can set goals and participate."

People become interested in life again—women have babies, according to Dr. Genefke. Yet the torture never really leaves. "It will harm you for years—the rest of your life. That is what we understand now," she says.

CVT is not alone anymore. Centers recently have opened in New Jersey and Illinois, and there are plans to start centers in other states as well. The recent proliferation of centers for torture victims does not surprise Johnson. Amnesty International has effectively brought torture to the public's attention, he argues. Since the publication of its first Report on Torture in 1973, torture has become more widely understood.

"The victim centers spring up because of our own needs," Johnson says. "We need to do something humane which counteracts the torture. We have to have some activity which refuses to accept torture." ■

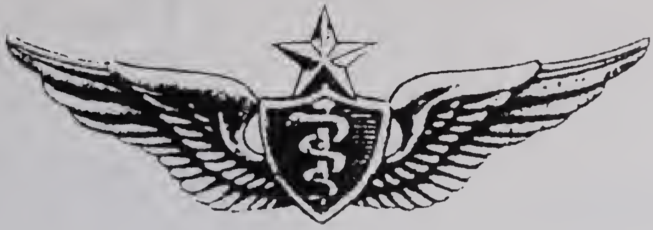
## For More Information

A number of organizations can provide more information about torture victims and what health professionals can do for them. For more information on how to become involved contact:

American Association for the Advancement of Science (AAAS)
Office of Science and Human Rights
1333 H Street N.W.
Washington, DC 20005
(202) 326-6400

American Public Health Association (APHA)
1015 15th Street N.W.
Washington, DC 20005
(202) 789-5600

The Center for Victims of Torture
722 Fulton Street S.E.
Minneapolis, MN 55414
(612) 331-1820



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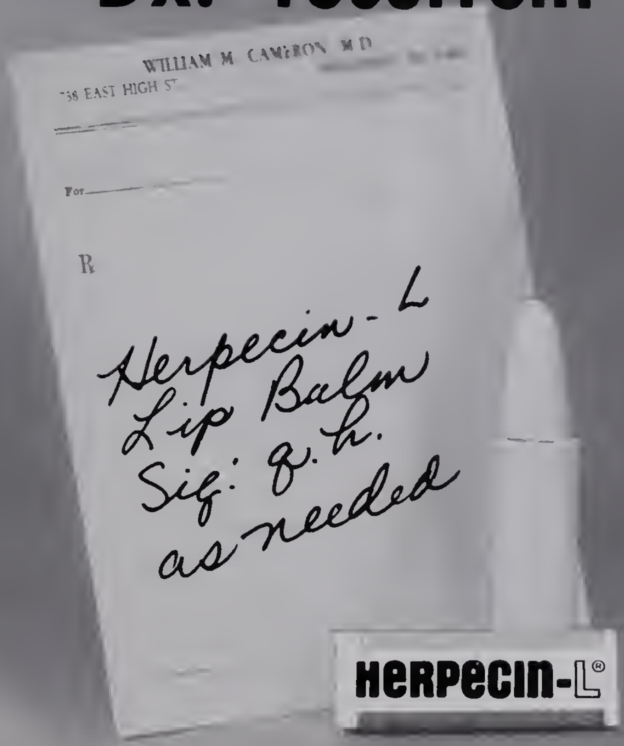

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**References:**
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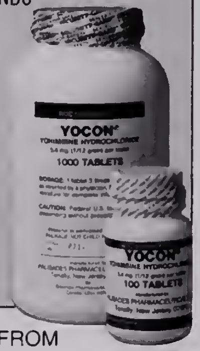

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# Percutaneous Renal Biopsy Using CT Guidance

*Arkady Synhavsky, M.D. and David C. Brown, M.D.*

*Renal biopsy has become essential in the diagnosis and treatment of renal parenchymal disease. We report using computerized tomograpy (CT) to help with localization of the kidney for percutaneous biopsy.*

Kidney biopsy is important in the evaluation of renal parenchymal disease manifesting as proteinuria, hematuria, or renal insufficiency.[1,2] Localization of the kidney for biopsy has been accomplished by various means. Since the first description of percutaneous renal biopsy in 1951[3], plain KUB or IVP films[4], fluoroscopy with or without angiographic dye injection[5-7], and ultrasound[8,9,] have been reported as aids in localizing the kidney. Complications following percutaneous renal biopsy have been extensively reviewed.[10,11] We feel that the risks of percutaneous renal biopsy can be diminished if more precise localization of the kidney can be accomplished. Computerized tomography demonstrates the body's anatomy with unique clarity in a cross-sectional format.[12,13] Since 1982 we have been using CT guidance for performing percutaneous renal biopsies.

## Materials and Methods

Once renal biopsy is deemed necessary, and written informed consent obtained, routine prebiopsy laboratory studies are performed. Active bacterial infection of the kidney, patient uncooperativeness, or abnormal coagulation parameters that could not be corrected prior to biopsy exclude a patient from the procedure. Outpatients are hospitalized the morning of the procedure and discharged the following day in most cases.

The patient is placed in the prone position for the CT scan. Angiographic contrast medium is not required. A metallic object, such as an unopened IV needle, may be taped to the back parallel to the spine, thereby helping to locate the lateral distance of the kidney from the spine (Figure 1). The patient is instructed to hold a breath at full inspiration during the scanning period, similar to what will be requested at the time of the actual biopsy. Cross-sectional cuts are initiated at the lower costal margin and proceed by one centimeter increments caudally. Once the lower pole of the desired kidney is located, a transverse light source from the CT scanner allows one to mark the transverse location of the kidney with an indelible pen. The kidney is thereby located in both the transverse and sagittal planes. The distance from the skin to the renal capsule can also be provided by the CT operator.

The patient is subsequently pulled from the CT tunnel but kept prone on the platform. The back is cleared of the metallic markers, and the routine Povodine scrub is performed. One percent lidocaine anesthesia is given, and a six-inch Vim-Silverman biopsy needle is inserted perpendicular to the exam table. Once the nephrologist feels

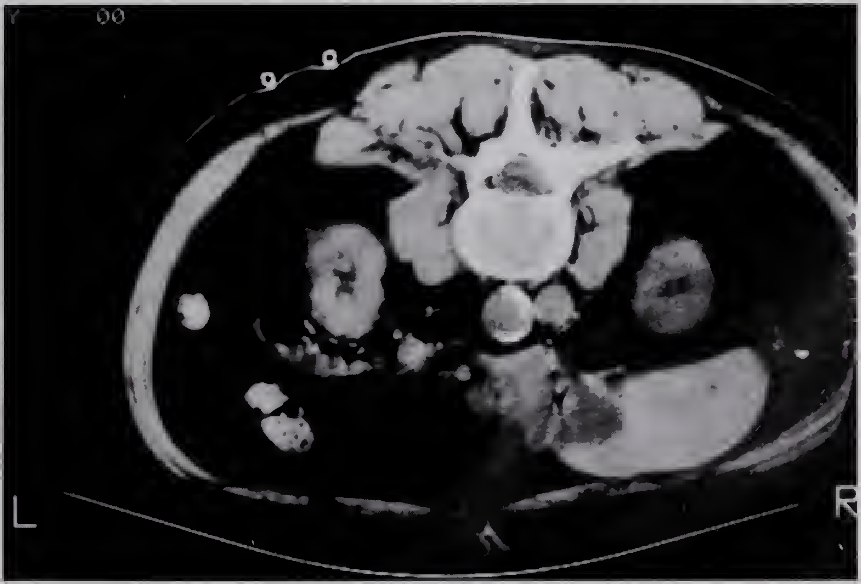

**FIGURE 2 — CT scan confirming correct placement of the biopsy needle in the lower pole in the left kidney. The entire length of the needle is not visualized because of a slight displacement from the transverse plane due to respiration.**

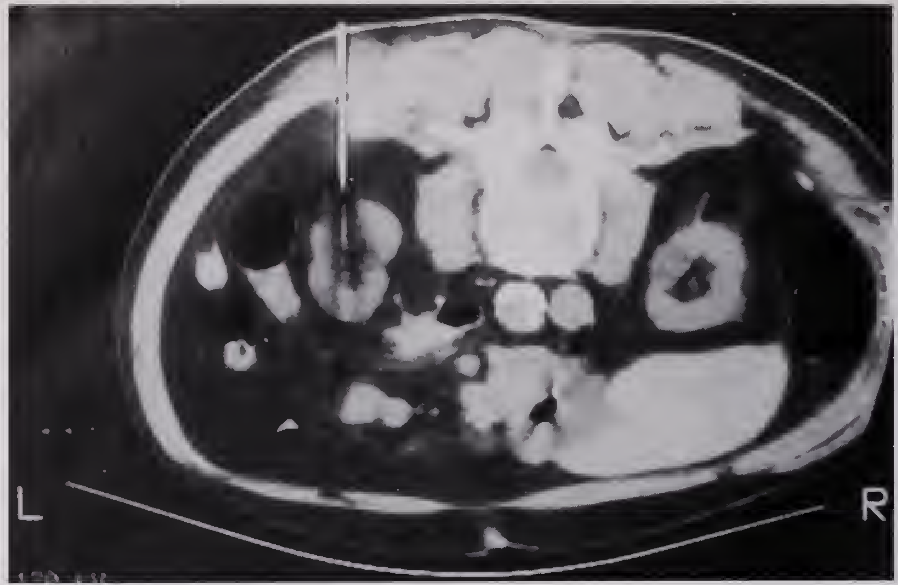

**FIGURE 1 — CT scan taken at the level of the lower pole of the left kidney. The patient is in the prone position. Two unopened IV needles can be seen on the back. The more lateral needle position was marked for biopsy needle placement.**

the biopsy needle reach the renal capsule and notices the needle to move cephalad-caudad with respiration, the patient is slid back into the scanner, where needle placement is confirmed (Figure 2). Care must be taken to ensure that the needle does not touch the walls of the scanner, thereby breaking sterility. If the CT picture shows the desired needle location, the patient is again moved out of the scanner to give the nephrologist sufficient room. Renal biopsy using the cutting needle is then performed in the customary manner.

## Discussion

We find CT guidance for percutaneous renal biopsy helpful from several standpoints.

1. The kidney is precisely located. Delineation of the lower pole will diminish the risk of postbiopsy hemorrhage, since the major renal arteries and veins are in the middle region of the kidney. Lateral localization also prevents the biopsy needle from straying too far medially. Since benign renal cysts are common[14] and may be incidentally found at the time of the CT, the biopsy can be performed in the cyst-free kidney.

2. Position of the needle can be confirmed immediately prior to biopsy. If the needle is too far cephalad or medial, it can be easily repositioned. Likewise, this also diminishes the possibility of obtaining a specimen that is too deep and contains only renal medulla.

3. Greater certainty in needle placement allows renal biopsy in patients previously precluded by the percutaneous technique. We have performed renal biopsy on patients requiring intermittent hemodialysis, patients with a solitary functioning kidney, and a patient with a myeloproliferative disorder in whom the kidney was caudally displaced partially below the posterior iliac crest.

4. Patient safety is increased. The kidney is an extremely vascular organ that receives approximately 25% of the cardiac output, and hemorrhage is the most common postbiopsy complication.[11] The risk of a hemorrhagic complication can be minimized with more precise localization of the lower pole of the kidney, which is farther removed from the major intra- and extrarenal vessels. CT guidance has already been applied to renal transplant biopsy with good results.[15] Since no angiographic dye is used, contrast medium-associated deterioration in renal function is precluded. CT guidance may also be an excellent form of teaching nephrology fellows in the technique of renal biopsy.

In summary, we feel that CT guidance of percutaneous renal biopsy allows for the use of state-of-the-art radiologic technology to assist the nephrologist in obtaining renal parenchyma with greater precision and safety.

## Acknowledgement

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*Arkady Synhavsky and David C. Brown are nephrologists and members of Kidney Disease and Critical Care Associates, P.A., a seven-physician group with offices throughout the Twin Cities.*

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# Evaluation of Chronic Pelvic Pain

*Joanne N. Gaul*

**Chronic pelvic pain (CPP) is defined as pelvic pain lasting longer than six months without obvious physical findings present. CPP is a perplexing gynecologic syndrome commonly brought to the attention of primary care providers. This paper reviews and discusses causes, treatments, and common psychologic characteristics in patients with CPP. The usefulness of laparoscopy as a diagnostic tool is reviewed, and a treatment plan is proposed.**

A common and perplexing problem facing the primary care physician today is the patient with complaints of pelvic pain. All too often, the history, physical examination, and laboratory tests reveal no abnormalities; at best, a nonspecific tenderness or questionable mass is found.

The definition of chronic pelvic pain (CPP) used in this article is: noncyclic pain of at least six months' duration refractive to previous treatment and without an obvious pathologic source on examination.

## History

Possibly because its cause can be elusive, CPP has been the source of study and reflection in the literature for over 125 years.[1] The first exhaustive study was done in the 1940s by Taylor,[2] who expressed the belief that CPP was due to vascular congestion in the reproductive tract. The vascular changes were "capable of causing pain, menstrual variations and sometimes secretory disorders." This congestion could be enhanced by gravity, inflammation, estrogen, and nervous system changes. Taylor[3] later suggested treatment involving general measures (rest, mental calm, diet, and exercise), local measures (treating cervical infections, tissue dehydration, stretching or anesthetizing painful uterosacral ligaments, glycerine tampons for edema, and episacral nerve blocks), and surgical procedures (dividing the uterosacral ligaments, ligating the dilated veins, suspending the uterus, hysterectomy, and oophorectomy). Despite his treatment recommendations, he found that 29 percent of his 58 patients showed no improvement with therapy and that only one was "cured" after an average of three years. He concluded by stating that "chronic pelvic congestion is evidently a persistent disorder, dependent upon the basic constitution of the patient, upon more or less unmodifiable psychologic factors, or upon conditions of living which the patient is unable to alter." In 1954, Taylor[4] summarized his work by stating that this syndrome seemed to be a psychosomatic disorder to which some physiologic factors possibly contributed.

In the years following Taylor's work, many treatments were tried with variable success (Table 1). Beard et al.[13] once again found a high percentage of pelvic varicosities in patients with CPP, but many other ideas about cause and treatment were explored.

In retrospect, a wide variety of treatments has been attempted, and the success rates for less invasive treatments have been as good as those for more invasive treatments.

## Patient Characteristics

Two general theories have evolved to describe the origin of the disease; one emphasizes the physiologic aspects of the syndrome, the other the psychologic aspects. Certainly the psychologic aspects are significant. As in other chronic pain syndromes, finding a variety of psychiatric symptoms is not unusual; thus, treating the psyche along with the body is important from the very

**TABLE 1**
Attempted treatments for chronic pelvic pain

| Treatment | No. of patients | Relief gained, % |
|---|---|---|
| Imipramine therapy[5] | 1 | 100 |
| Presacral neurectomy[6] | 50 | 63 |
| Adhesiolysis[7] | 100 | 65 |
| Intrapelvic fluid removal[8] | 52 | 52 |
| Salpingectomy[9] | 67 | 67 |
| "Trigger point" anesthesia[10] | 122 | 90 |
| Varicosity resection[11] | 15 | 11 |
| Broad ligament laceration repair[12] | 28 | "Generally good" |

beginning of therapy. The belief that patients with CPP have a higher frequency of psychiatric disturbances than pain-free controls has been verified in several studies.

Renaer et al.[14] found that both patients with CPP without clear organic causes and patients with CPP and endometriosis had increased scores for hypochondriasis, depression, and hysteria on the Minnesota Multiphasic Personality Inventory (MMPI); neurotic behavior was observed. In contrast, the pain-free controls differed significantly from the pain groups. These authors concluded that chronic pain with an organic origin can lead to neurotic reactions. Beard et al.[15] also found that patients with CPP without demonstrable cause were more neurotic than pain-free controls and suggested that short-term psychiatric measures were beneficial.

Magni et al.,[16] using the Zung Self-Rating Depression Scale, showed an increase in depression in patients with CPP. They concluded that idiopathic pelvic pain could be a symptom of depression and that tricyclic antidepressants could be an effective treatment. Beresin's[5] case-study of imipramine supports this theory.

Rosenthal et al.[17] found that abnormal MMPI results were a poor predictor of pelvic disease, since 11 of 45 patients with abnormal laparoscopic findings had normal MMPI results and 34 of 45 had abnormal MMPI findings. They also found that somatization pattern (increase in scales 1 and 3) was the most frequently abnormal (13 percent) and that six percent of patients had a depression-like picture.

Castelnuovo-Tedesco and Krout[18] found "no differences as to character and severity of psychiatric pathology between patients with CPP who have pelvic pathology and those who do not" and concluded that "CPP can be considered a manifestation of psychiatric disturbance, which is a nearly constant finding, whereas organic pelvic pathology is an inconstant finding." The study compared two socioeconomic levels and found that social class had little apparent bearing on the degree of psychopathology.

Many studies[15,18-21] found that some women seem to have a genetically or environmentally determined predisposition to the development of CPP. These patients frequently came from homes in which the parents' marriage was turbulent, violence or the threat of it was present, or loss of a parent occurred or seemed probable. These women frequently left home at an early age or married young to leave home, and their marriages often were unsatisfactory. They typically had a meager sex drive and strong repressive forces, and described themselves as very unfriendly toward their husbands, even though they strongly wished that their marriages were beyond reproach. They could not tolerate negative elements in the relationships, whether from themselves or their husbands. They were typically between 20 and 40 years old, rarely perimenopausal or postmenopausal. They were typically delivered of their first child shortly before the onset of symptoms. These patients were described as often emotionally immature, with strong dependency needs commonly manifested by anxiety and depression.

## Diagnosis

Because of its relative simplicity and safety, laparoscopy has become a common tool in the evaluation of undiagnosed CPP,[22,23] and it is important for a primary care physician to know when to do, or refer a patient for, this procedure. A poor correlation exists between the pelvic examination results in patients with CPP and the existence of pelvic disease. In one study,[24] pathologic tissue was found in 24 of 47 patients with normal examination results and in 16 of 46 patients with abnormal results (such as suspected masses). Several studies evaluated the efficacy of laparoscopy in determining a source for CPP, and the results differed widely (Table 2).

The frequency of observed gynecologic disease in these nine studies of pelvic pain varies from eight percent to 90 percent. This extremely significant variation in findings poses some questions about the selection of the patients in these studies. Levitan et al.[29] used all patients who underwent laparoscopy for CPP at the Rothschild Medical Centre in Haifa, Israel, during a 7-year period. Goldstein et al.[27] used girls between the ages of 10.5 and 19 years who had had laparoscopy after at least three visits to the emergency room, pediatrician, or gynecologist because of CPP. In these two examples, at least, one can see that cultural and age-related differences exist between the selected patients. Laparoscopy itself appears to be of therapeutic value in some patients, perhaps because of the peace of mind associated with the knowledge that no significant disease, such as a malignant lesion, was found.[25] Certainly, adhesions and endometriosis are not always accompanied by pain. Kresch et al.[28] found that in a control group of 50 patients undergo-

**TABLE 2**
Results of laparoscopy for chronic pelvic pain

| Study | Patients | Pathologic findings | | | |
|---|---|---|---|---|---|
| | | Endometriosis | PID* | Adhesions | % |
| Pent[25] | 38 | 7 | 7 | 6 | 53 |
| Lundberg et al.[24] | 95 | 13 | 15 | 17 | 61 |
| Fear[26] | 23 | 5 | 5 | 5 | 74 |
| Goldstein et al.[27] | 109 | 49 | 9 | 17 | 91 |
| Kresch et al.[28] | 100 | 32 | 0 | 38 | 83 |
| Levitan et al.[29] | 186 | 4 | 8 | 6 | 8 |
| McBride & Newman[30] | 42 | 5 | 9 | 3 | 48 |
| Renaer[31] | 60 | 10 | 0 | 24 | 75 |
| Liston et al.[23] | 134 | 6 | 0 | 21 | 24 |

*PID: pelvic inflammatory disease.

ing sterilization, 29 percent had pathologic conditions such as endometriosis or adhesions.

## Treatment

The "therapeutic strategy" of Renaer[31] is a comprehensive treatment plan for patients with CPP (Table 3):

**TABLE 3**
Treatment of chronic pelvic pain

- History, physical examination, routine laboratory tests
  - Obvious pathologic changes: treatment
  - No obvious pathologic condition
    - Psychologic assessment and follow-up examinations
    - If pain continues, laparoscopy
      - No pathologic findings: further psychologic treatment
      - Pathologic changes: treatment

1. Establishment of a good doctor-patient relationship. A physician unprepared to take the pain symptoms and other complaints seriously cannot help these patients. Truly listening to the patient's description of her problem is indispensable. By seeing the patient more than once, the physician can study the complaints, note any change with time, and reassure the patient that her complaints are being taken seriously. Obviously, it is imperative to search for any organic disease that could explain the symptoms. A laparoscopy may be done to establish a correct diagnosis and to alleviate the fears of the patient.

2. Psychologic evaluation and treatment. Because CPP is so frequently associated with psychologic problems, it is important to examine the relationship between psychologic factors and the pain complaints. This examination should not be done as a last resort, making the patient think that the physician has given up and that it is "all in her head," but should be begun at the first evaluation as a discussion of the stresses in her life. Further examination could include the MMPI or referral to a counselor. When the latter is deemed necessary, there should be close collaboration between the primary physician and the counselor.

3. Medical treatment. Some patients have been helped by cyclic estrogen and progesterone, which are easily administered and usually readily accepted. Anti-inflammatory agents, such as nonsteroidal pain relievers, are effective for some patients. Other attempts at medical therapy have been described above.

4. Surgical treatment. Many surgical therapies, some described above, have been attempted and have produced various degrees of relief. Hysterectomy is common, probably overused, and should be recommended only if other indications for this operation are present.

Certainly, CPP can be a complex problem, and making the correct diagnosis is only the beginning of a successful outcome for the patient. Treatment must be tailored to the needs of the patient, and the physician must maintain a caring and understanding attitude. Although the patient may not find a "cure," the present state of medicine can help her deal with the problem.

## Acknowledgments

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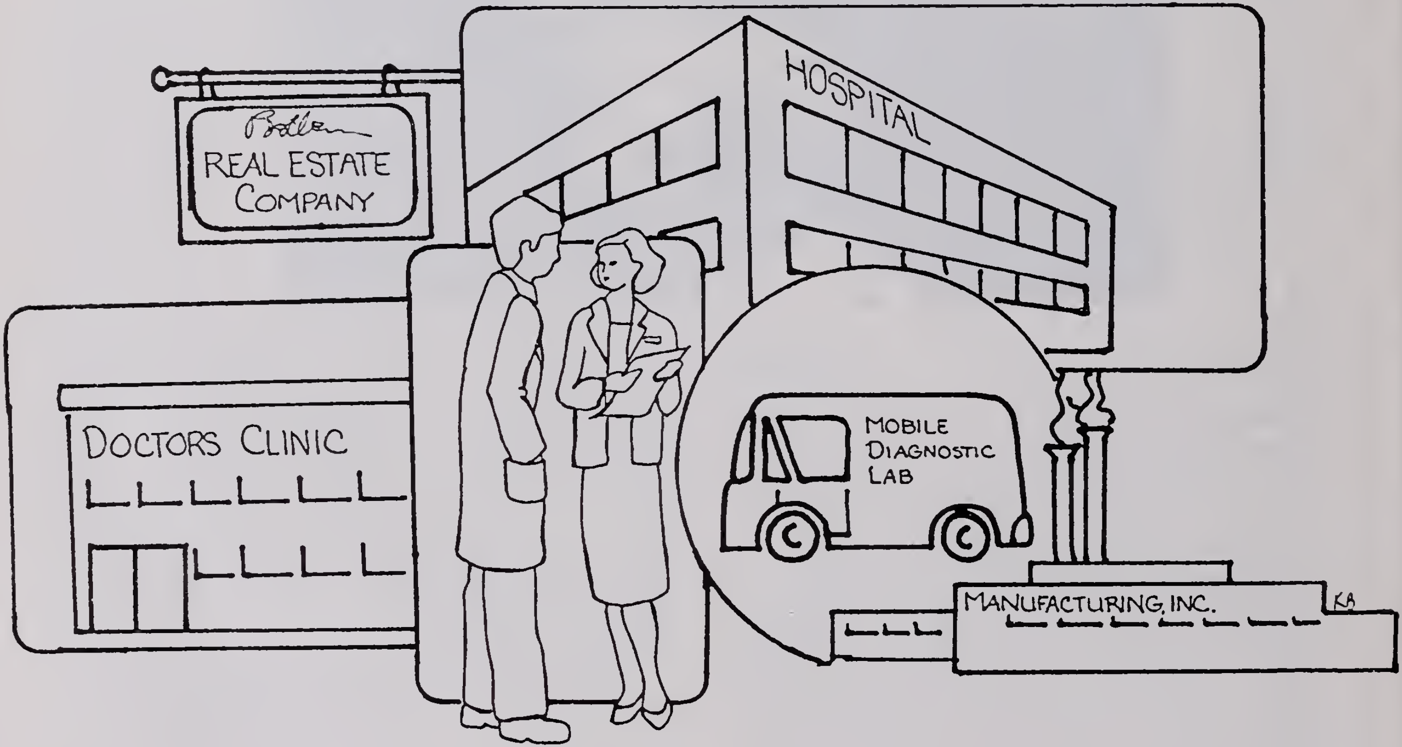

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# Minnesota's Physician Reporting Law:

## When Am I My Brother's or Sister's Keeper?

### Part I

*Robert Eelkema, J.D., and Anne L. Schlueter, J.D.*

**In 1985, the Minnesota Legislature completed a major revision of the Medical Practice Act, partially as a result of intense public and legislative scrutiny of the Board of Medical Examiners (BME). A portion of the 1985 revision pertains to mandatory reporting, which requires licensed health care professionals to report personal knowledge of conduct by a licensed health care professional that may be grounds for BME discipline. That revision and subsequent amendments to the Medical Practice Act have significant and, as you will soon discover, sometimes costly implications for Minnesota physicians. In Part I of this two-part series on the Physician Reporting Law, Eelkema and Schlueter present a case study that illuminates the law in action, discusses practical applications, and answers some common questions. Part II, to be published in the October issue of Minnesota Medicine, will review the BME's complaint investigation and discipline procedures and describe 1988 amendments to the Medical Practice Act.**

## Mandatory Reporting: A Case Study

Perhaps one of the most agonizing decisions a physician must make is whether to report a colleague's chemical dependency to the BME. (In this article, "chemical dependency" refers to drug *and* alcohol abuse, dependency, and addiction.) Perhaps no case illuminates this as clearly as the Eisenstadt Decision.

The Eisenstadt Decision involved four partners in a medical practice. (While the BME issued four separate decisions involving each physician individually, in this article, we have referred to the decisions collectively as "The Eisenstadt Decision.") One of those partners had a history of chemical dependency, about which the other three partners had direct, personal knowledge. In early 1985, the impaired physician began "free-basing" cocaine, and used approximately three and one-half grams of cocaine per week, usually on weekends only. This drug use resulted in the physician missing several days of work because he would not see patients after using cocaine the night before. Throughout 1985, the physician sought treatment on three separate occasions. During his periods of treatment, the physician met with his medical partners regarding his difficulties, and with an attorney. All three of the physician's medical partners had direct, personal knowledge of his chemical dependency and worked closely with him.

The material in this article is meant as a general educational discussion only, and should not be viewed or relied upon as a substitute for sound legal advice. Because determining a physician's course of action under the reporting statute frequently is "fact-specific," you are urged to seek competent legal counsel for specific questions.

The BME's findings of fact involving the three medical partners acknowledged that the three partners caused the physician to seek help from Physicians Serving Physicians, and also facilitated the physician's entry into a treatment program. The findings further admit that the three partners took steps to prevent the physician from engaging in the practice of medicine at any time during which they had reasonable cause to believe the physician remained habituated to a drug or intoxicant, that they never had reason to believe the physician was under the influence of a drug or intoxicant while engaging in the practice of medicine, that they did not believe they had an obligation, statutory or otherwise, to report to the board their knowledge of the physician's dependency, and that they did not do so. The findings by the BME also acknowledged that when inquiry was made by the board, all three partners fully and cooperatively disclosed all the facts about which they were aware regarding the physician. Nonetheless, the BME found that the three partners' failure to report constituted a violation of Minnesota law. Each of the three partners was served with a formal letter of reprimand and ordered to pay civil penalties ranging from $3,000 to $7,500.

## Practical Applications and Common Questions

The three partners in the Eisenstadt Decision violated the Minnesota reporting law because they were non-treating physicians who failed to report direct, personal knowledge of the impaired physician's chemical dependency and his unsuccessful attempts at treatment. Clearly, none of the three partners believed they had any obligation to file a report with the BME, which may be proof that the axiom "ignorance of the law is not an excuse" is alive and well before the BME. To assist physicians in educating themselves in the requirements of the reporting law, we addressed the statute in a question and answer format.

► What is the "lesson" of Eisenstadt?

The BME sent a strong message through the Eisenstadt Decision: when you have firsthand information of another physician's chemical dependency, and you are not the treating physician, you must report to the BME the facts about which you are aware, regardless of whether you believe the physician is under the influence of drugs or alcohol while treating patients. The statute does not require—or permit—you to determine whether a physician can or cannot safely practice medicine. This conclusion is the province of the BME. In other words, you are obligated to report the facts that you know, and the board is obligated to reach conclusions based upon those facts.

► What exactly do I have to report?

Under the statute, you must report *personal knowledge* of any conduct by a physician that you *reasonably believe* constitutes grounds for disciplinary action, including any conduct indicating that the physician *may be* medically incompetent or unable to safely engage in the practice of medicine.

► What is "personal knowledge" and "reasonable belief?"

These terms are not specifically defined in the statute or in the Eisenstadt decision. However, one can probably safely surmise that direct, personal knowledge (i.e., firsthand information) that a colleague is chemically dependent triggers a reporting obligation under the statute. Conversely, a mere rumor that a colleague may have had too much to drink on one or two occasions does not constitute reportable information. In between these two extremes are a wide variety of facts and circumstances that may or may not impose an obligation to report. "Personal knowledge" can encompass both direct (i.e., firsthand), and indirect (i.e., secondhand) information. Most of the confusion among physicians arises from the acquisition of indirect knowledge regarding a colleague's activities.

**One misconception is that a physician is only obligated to report patterns of conduct. While a pattern of conduct probably raises more concern, a single incident would also be reportable if that incident involved the possibility of harm to the public.**

► How do I decide if I should report a fellow physician?

Asking yourself the following questions may help you to determine whether you have an obligation to report:

► Is the source of my information credible and reliable?

► Have I received this information from more than one source?

► What is the content of the information I have received?

► Does the information I have received indicate a pattern of conduct, or a single incident?

For example, suppose you receive information from an individual known to enjoy "speculating" or "gossiping" that a colleague drank a glass of wine at lunch two days ago. This probably is not reportable because: the source of the information is unreliable; the information came from only one source; the information indicates a single incident; and you know from the content of the information that your colleague was not working on the day in question. Change the sources of the information to more than one associate; or to one or more patients who noticed slurred speech, or the smell of alcohol on the colleague's breath; or an employee who found an empty bottle in the wastebasket; and you may have an obligation to report the facts about which you are aware.

► How full is your glass?

It may be helpful to imagine an empty glass sitting on a table. Each fact or response to the above questions is worth a tablespoon of water. If the "glass" begins to fill as you are answering the questions, the likelihood that you have an obligation to report your information to the BME increases accordingly.

► When is a single incident enough to report?

One misconception is that a physician is only obligated to report *patterns* of conduct. While a pattern of conduct probably raises more concern, a single incident would also be reportable if that incident involved the possibility of harm to the public. (Or, to quote an informal statement by the BME, when it is a "glaring mistake.") An example of this would be if a physician arrived for surgery at a time when he or she was clearly under the influence of alcohol or drugs.

► What about the "safe harbor?"

The "safe harbor" refers to the statutory provision that a physician does not have to report information that was obtained in the course of a physician-patient relationship. The safe harbor is very limited, however. The information must be obtained through the physician-patient relationship, the patient must be another physician, and the treating physician must successfully counsel the other physician to limit or withdraw from practice to the extent required by the impairment. Thus, if you receive information from another patient who is not the alleged impaired physician, the safe harbor would not apply. Likewise, even if you are a treating physician, if your physician/patient withdraws from treatment, or refuses to limit practice to the extent required by the impairment, the safe harbor would not apply.

In the Eisenstadt Decision, even though the three partners caused the impaired colleague to seek treatment, the BME found that they had an obligation to report. This has raised grave concerns among physicians. The demands of a medical practice frequently result in what some would call "social isolation," where a physician's medical partners are also the physician's primary (or only) social friends. If an impaired physician knows that by confiding in a physician-friend, the friend will be obligated to report, chances may be that the impaired physician will not seek help through the individuals best able to provide it. Ironically, one of the purposes of the safe harbor (to facilitate treatment) is undercut by the terms of the provision itself.

Informal discussions with counsel for the BME have implied that, indeed, this is not the intent of the statute nor the enforcement agency. The informal consensus is that active involvement in a colleague's ongoing treatment process will, in effect, satisfy the physician-friend's obligations. Note, however, that the further removed a physician is from the treatment process, the more likely it is that the physician has an obligation to report to the BME. Moreover, regardless of whether a physician is the "treating physician," withdrawal from treatment or refusal to limit practice activates a duty to report.

► When do I have to report?

The statute requires that reports be filed within 30 days of the occurrence or transaction. Questions frequently arise regarding what is an "occurrence" or "transaction" in a chemical dependency type situation. Generally, the time begins to run when a physician acquires reportable information. For example, while a treating physician would not have a duty to report on the day that an impaired physician first seeks treatment, he or she probably would have to report within 30 days from the time the impaired physician withdraws from treatment, because the safe harbor would no longer apply.

► What could happen if I don't report?

The BME has wide discretionary powers, which will be explained in greater detail in Part II of this article, in determining what action to take when it finds that a physician has violated his or her reporting obligations. In the Eisenstadt Decision, however, the three partners were issued a formal letter of reprimand, and civil penalties were imposed. The civil penalty could have been as high as $10,000 for each separate violation. Additionally, the BME has the power to revoke or suspend a physician's license, impose limitations or conditions on the physician's practice of medicine, or order the physician to provide unremunerated professional services. It may be of consequence that, in Eisenstadt, no patient or member of the public was harmed as the result of the medical partners' failure to report. It could be anticipated that, if harm actually occurred, the penalties imposed upon the reporting physician could have been much more severe.

**In the Eisenstadt Decision, the three partners were issued a formal letter of reprimand, and civil penalties were imposed. The civil penalty could have been as high as $10,000 for each separate violation.**

► If I report and I'm wrong, will I be liable for defamation?

The reporting statutes specifically provide that "any person, health care facility, business, or organization is immune from civil liability or criminal prosecution for submitting a report to the board. . . or for otherwise reporting to the board violations or alleged violations. . . all such reports are confidential and absolutely privileged communications." Thus, the reporting physician is afforded protection when attempting to comply with the reporting obligation statute.

► If I submit a report and the Board takes action, will this be published in the newspaper?

A two-year moratorium has been enacted, which removes the requirement that the BME publish the results of discipline against physicians when that discipline is based exclusively upon either the inability to practice medicine with reasonable skill and safety (because of illness, drunkenness, use of drugs, etc., or aging), or becoming addicted to or habituated to a drug or intoxicant.

The board views these types of conditions as conditions that are the result of illnesses and not conditions that involve some affirmative act on the part of the physician. It should be noted that discipline orders based on these grounds will still be public information, as board orders have always been. It should also be noted that if the board perceives there to be an ongoing threat to the public (e.g., a patient files a complaint, and/or the physician is not limiting his or her practice appropriately), the BME reserves the right to proceed against the physician more aggressively.

The issue of what is published in the newspaper concerning physicians who have been disciplined, as well as what is actually written in the board's final order, will continue to be a topic for discussion by the MMA and the BME.

Although the Eisenstadt Decision illuminates the law as it pertains to chemical dependency, physicians and other health care professionals need a more thorough understanding in order to safeguard against possible violations. In Part II of this article, we will take a closer look at the BME's complaint investigation and discipline procedures and review 1988 amendments to the Medical Practice Act.

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# PRESIDENT'S LETTER

LAWRENCE M. POSTON, M.D.

## The Committee on Competition— A Dissenting Opinion

Two years ago, during the 1986 annual meeting of the Minnesota Medical Association, the House of Delegates approved a resolution that called for the establishment of an ad hoc Committee on Competition. The purpose of that committee was to study the effects of the competitive health care system on medical practice, to make recommendations for MMA policy, and to develop an educational program for physicians regarding its findings.

The committee met during 1986-87 and made a report to the House at the 1987 annual meeting. The committee felt, at that time, that more study was needed and recommended, among other things, that its work continue for another year. The House of Delegates agreed and the work continued.

The second report, delivered at the 1988 annual meeting of the MMA, contained seven conclusions and 10 recommendations. The majority of the conclusions, after consideration by a reference committee, were adopted by the House, though some of the wording was amended in several of them. Most of the recommendations were similarly approved.

There was considerable testimony, controversy, and debate before the reference committee regarding three of the ad hoc committee's recommendations. The reference committee recommended that the three not be adopted. However, the full House of Delegates instead referred them (along with another recommendation that is somewhat unrelated) to the Board of Trustees for action.

The four recommendations referred to the board are quoted here directly from the ad hoc committee report:

► 1A. The MMA should develop and support legislation which would bar physicians from entering into contracts which include direct contractual inducements to reduce or limit services and to oppose exceptions that would allow payment of such inducements. (Resolution #12, as amended, 1987 Annual Meeting.)

► 1B. The MMA should develop and support legislation that would prohibit contracts that require physicians (and other providers who order patient care) to be at financial risk for services which they cannot themselves perform. (Resolution #14, as amended, 1987 Annual Meeting.)

► 3A. The MMA should oppose all financial incentives to physicians that may result in overutilization or underutilization of medical care.

► 3B. The MMA should develop and support legislation to consolidate and coordinate the regulation of health care plans by the government, with clearly defined and publicized objectives and guidelines.

I am a member of the ad hoc Committee on Competition. I participated in all of that group's study, discussion, and debate. My communication here is an attempt to expand on the differences of opinion that exist and to make some personal observations.

Much of our discussion pertained to conflict of interest for physicians, arising from health care payment methods that offer financial incentives to limit care. One point of view holds that contracts offering financial incentives to reduce or limit care should be barred, by law, because they involve an intolerable conflict of interest. Recommendation 1A., above, espouses that position. The opposing position holds that such incentives are both ethical and appropriate.

Many providers of medical care have, at times (inadvertently perhaps) been guilty of overutilization of services and resources. A few examples should suffice to substantiate that fact.

First, many diagnostic and therapeutic procedures, for which patients were formerly hospitalized, are now done in a less expensive, outpatient setting. Second, many studies and procedures that add little or nothing to the outcome of patient care are done in the name of *defensive medicine*. Third, there is a growing body of evidence that a significant number of surgical procedures are done, due to variations in practice style, that are of questionable value to the patient.

Given a degree of overutilization, if economic incentives motivate us to examine our practices and to be more cost effective, then such incentives can serve a good purpose.

To be sure, a conflict of interest can exist, and selfish motives might prompt a physician to provide inadequate care to enhance income, but the same self-interest might also prompt one to provide more care, and thus more income in the traditional fee-for-service mode. If those factors prevail, then medicine, as a profession, is in a sorry state indeed.

Limiting medical care to care that is beneficial to our patients is a valid, desirable, and ethical behavior that should be encouraged by any means, including economic incentives. After all, we do earn our livelihood by the practice of medicine.

Recommendation 1B. calls for legislation that would prohibit physicians from assuming financial risk for services they cannot themselves perform.

Such risk is now assumed under some capitated payment systems. By this mechanism, physicians may agree to see that all covered care is provided for patients included in the contract in exchange for a fixed monetary payment per patient, or per family or other designated group. Covered care is provided either by the doctor who makes the agreement or by referral to others when necessary. Such referral requires payment by the referring physician to the consultant or facility. It is critical to note that when such an arrangement exists, the physician providers *must* agree *to participate*. If doctors do not wish to practice in this manner, it is simple enough to avoid the process. Don't enter into such an agreement.

Once again, a conflict of interest can exist in this mode. A self-serving physician might refuse to make a needed referral for outside care in order to avoid an expenditure of capitation funds. The possibility of such malfeasance, however, is no reason to outlaw a payment mechanism that is agreeable to some cost-conscious, efficient, ethical practitioners. Rather we should seek to identify inappropriate practitioners and deal with them as prescribed by the Minnesota Medical Practice Act, which forbids ''conduct likely to harm the public,'' ''disregard for the health, welfare, or safety of a patient,'' and unprofessional conduct, which includes ''failure to conform to the minimal standards of acceptable and prevailing medical practice.''

## Correction

Last month's *President's Letter* contained an error. The line ''We can no longer afford the luxury of resource expenditure in the name of preventive medicine'' should have read: ''We can no longer afford the luxury of resource expenditure in the name of *defensive* medicine.''

Dr. Poston does not believe *preventive* medicine to be a luxury.

Recommendation 3A., regarding opposition to financial incentives that may result in overutilization or underutilization of medical care, is not really controversial at all, since both are, by definition, improper behavior and have never been condoned by our profession.

Many arguments have been made in support of these controversial recommendations and are detailed in the reports of the ad hoc Committee on Competition. The viewpoint that I have expressed here is not a part of our report. For the reasons I have stated here, I believe that the recommendations under consideration are not appropriate policy for the Minnesota Medical Association. I hope that this presentation has been helpful in the effort to reach a proper conclusion in this matter. ■

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## **Relman** from page 525

RELMAN: The jury is out on that. We shall see. We don't know whether it's going to work. But it's a reasonable alternative. Here's what I like about it:

It says, first of all, that, as a state, we have a responsibility to see that everybody gets the care they need. I can't see how anybody can argue with that principle.

The second thing is, the costs have to be shared. They shouldn't be born entirely by government, by individuals, by employers, or by the hospitals. They have to be shared collectively. That may or may not be the wisest philosophy in the long run, but it's a reasonable way to start.

Businesses think they're being asked to pay too much, the hospitals think they're being asked to pay too much, and conservatives in government think government is being asked to pay too much. That says to me it's probably a good law, because everyone should groan a little bit and chip in.

Furthermore, I think the way hospitals are paid under the Massachusetts plan is sensible. I don't think DRGs make any sense at all. It's clear that the old system—of hospitals simply submitting their bill and expecting to get paid—was a total failure. We'll never go back to that system again, because it would simply bankrupt us. DRGs were an attempt to stem the economic hemorrhage, but DRGs are not working. They are not working because they give perverse incentives to the hospital. DRGs can be gamed and manipulated, and they result in premature discharge of patients and skimming of profitable patients by hospitals. DRGs put pressures on physicians that shouldn't be there. I think that global budgeting is probably the way we're going to go. And that's what the Massachusetts state bill provides; global budgeting for hospitals.

REECE: *What does "global budgeting" mean?*

RELMAN: That means that hospitals are going to be paid a lump sum each year, based on what they were paid the year before, plus estimates of inflation and changes in patient load, with some allowance for new technology. And, with that lump sum, which will be negotiated each year, hospitals are expected to do their job, to take care of the patients who come to them—no dumping—and do it adequately. In this way, the payers know what their costs are going to be, and hospitals are encouraged to be as efficient as possible, because what they save in one area they can use in another.

REECE: *What about the impact of the Dukakis bill on the physicians? How do you assess that?*

**It's possible that good medical care for everybody costs more than the country wants to pay.**

RELMAN: It's hard to say. Physicians in this state are very unhappy with the Dukakis administration because they are required to take care of Medicaid patients, they cannot balance-bill Medicare patients, and Blue Shield has been giving them a hard time too. I must say I am sympathetic with the physicians' complaints, because they really are paid much less on the average than physicians in other states. They have not received adequate cost-of-living increases. The cost of living in Massachusetts is very high, and reimbursement for physicians does not reflect that. Many older physicians are locked into fee schedules established long ago. I think these are legitimate complaints.

REECE: *It seems to me that one glaring inequity in this state, as in Minnesota and elsewhere, is urban/rural fee split. I've been staying in Cape Cod and physicians there are complaining bitterly that they get paid one-third less than their Boston counterparts. The same thing exists in Minnesota. That has to be corrected.*

RELMAN: I agree. I think there are undoubtedly inequities in the way physicians are being paid, and that is the problem that should be addressed.

REECE: *So the principle is right, but the mechanics are wrong.*

RELMAN: Yes. The principle is right, but the way it's being implemented has to be changed.

REECE: *You've said some sort of federally subsidized health insurance program is desirable and inevitable. Is that accurate?*

RELMAN: Yes, I think so. It seems to me that, sooner or later, we're going to have to accept the principle that, as a society, we have an obligation to provide necessary care for everybody. It's either going to be done, then, in 50 different pieces by 50 different states, or it's going to be done nationally. It seems to me that the national approach is much more efficient. If you have a national system you can eliminate a lot of administrative costs, a lot of inequities, and you can deal with the problem of poor states and rich states. There's no reason why people who live in a poor state should get worse medical care than people living in a rich state.

The question is, how can you have a national health insurance system that you can afford, that won't bankrupt us? And how can you have a national health insurance system that gives patients appropriate freedom of choice and allows doctors appropriate professional freedom to practice the kind of medicine they should be practicing and not be dictated to by bureaucrats? Those are the difficult questions.

We're going to have to work very hard to figure out how to control costs. Unless we do that, the system won't work. My personal view at the moment is that the secret to cost control involves prospective, capitated payment, which means salaried physicians, and really effective technology assessment and quality assurance. If you have doctors working in groups for their peers, judged by their peers, and can then apply the information that you get from technology assessment effectively, it's possible to have valid quality assurance programs, and to assure the public and the payers that you know what they get for their money.

If the public is not willing to pay all that is necessary for good medical care, decisions to limit insured services should be made up front and should be knowledgeable. It's possible that good medical care for everybody costs more than the country wants to pay. We won't know that until we have doctors working on salaries in a capitated system guided by good technology assessment, peer review, and quality assurance programs. If it turns out that the bill is too high, then some tough decisions will have to be made. My guess is it won't be too expensive. My guess is that—if you eliminate unnecessary services and tests, and if you eliminate the administrative waste, which is considerable—there will be enough money to do everything that good medicine requires. There will be enough to pay doctors well for their time. But you can't have a workable system if you continue to pay for it on a piece-work basis, and if you don't know what you're getting for the money.

REECE: *Your scenario envisions a transition to group practice on a massive scale.*

RELMAN: That's right. What I envision is a trend in that direction, with the option always open for fee-for-service, private practice, and private insurance for those who want it and can afford it. But my guess is that most public payment will be for group practice with salaried physicians on a capitated basis. I can't see an affordable, publicly funded system based on fee-for-service. I just don't think it's in the cards.

REECE: *May I reemphasize one of the linchpins in your argument? You're saying physicians must govern physicians to make any system work well.*

RELMAN: Absolutely. That's crucial. One of the things wrong with the HMO system we now have is that in many places physicians are being governed by businessmen. Medical decisions and medical policies are being dictated by the needs of investors and businessmen. And physicians are being given incentives to contribute to the profits of the investor-owned HMO. It destroys the ethical basis of the profession, and it threatens the quality of medical care.

REECE: *From what you've said, I would gather you agree with Dr. Paul Ellwood's Shattuck Lecture remarks in your June 9 issue, namely that we should employ sophisticated technology to measure clinical outcomes on a broad scale.*

**If, in the future, it becomes necessary to ration the amount of medical care that we have to provide, at least we'll know what we are doing.**

RELMAN: Absolutely. I think that he's touched on what I would consider to be the beginning of the third revolution in health care in this country.

The first revolution was the extension of insurance to the great majority of people. This was the "access revolution."

The second revolution was the "revolt of the payers," i.e., the development of massive cost containment programs where the payers suddenly decided they simply could not go on paying the bills as they were.

The third revolution is about to start, and that is a revolution which says we have to know what we're getting for the money. We cannot pay for medical care blindly anymore. We simply cannot pay for whatever services the hospitals and the doctors wish to provide. We have to have information about what we get for the money. It may turn out that we don't save very much in the process, but at least we'll know what we're paying for. Let's call this the "quality assessment revolution."

If, in the future, it becomes necessary to ration the amount of medical care that we have to provide, at least we'll know what we are doing. We'll have the facts. We'll know what we're losing by not buying certain services, and we'll have to weigh those losses against other losses that we would suffer if we didn't have the money to do other things.

But Ellwood is absolutely right when he talks about the coming era of "outcomes management." Government is waking up to that, too. Not long ago, I attended a private conference sponsored by HCFA. The theme was technology assessment and quality assurance. It's clear that the payers are going to have to invest a certain fraction of the huge amount of money they're now spending on health care to sponsor studies of the value, safety, and effectiveness of health care, and in monitoring the quality of what we do. Only with that information will we be able to make intelligent plans for the future. Otherwise we're working in the dark. ■

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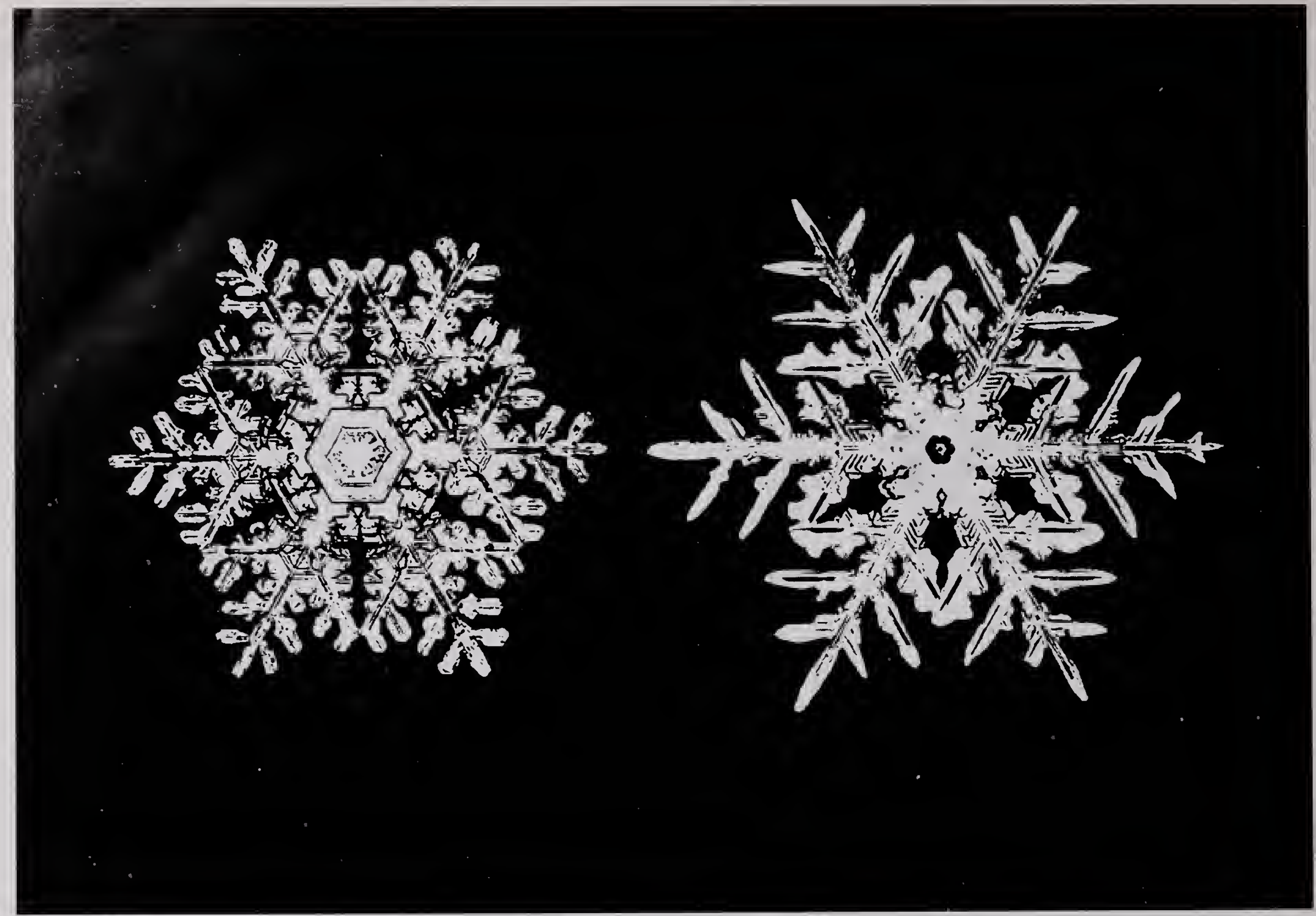

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IF A NEW MEDICINE CAN HELP, WE'RE WORKING ON IT.

**O'Connor** from page 522

was the way the doctors in the state felt. It was passed with only three or four dissenting votes, making a virtually unanimous statement by the doctors on the climate of medical practice in Massachusetts.

**REECE:** *In Massachusetts there seem to be a series of converging historical forces that have culminated in this unhappiness at the grassroots level on the part of physicians. Could you summarize what's happened here in the last ten years?*

**O'CONNOR:** The fundamental problem is the physicians' overhead. In private practice, the overhead has increased substantially. In Massachusetts, due to regulation of the practice of medicine and the regulation of fees under various guises, physicians have been unable to generate enough income to first pay the heavy bills, including the substantial malpractice insurance premiums, and still have enough profit to make a reasonable living.

**REECE:** *What's unique about Massachusetts is that these income restrictions come from multiple directions?*

**O'CONNOR:** Yes, but let's look at the overall picture. Let's go back a bit. In 1941 Massachusetts started Blue Shield. The medical society controlled it, or at least appointed the directors, until 1979. Then the legislature took control of Blue Shield away from the Massachusetts Medical Society. In 1984, we sued Blue Shield and had a prolonged lawsuit, and that accounts for some of the bitterness you notice now. We spent about two and one-half million dollars suing Blue Shield. We lost the case in the initial federal court, but won it in the appeals court.

At about the time we were winning our lawsuit, Blue Shield, which has tremendous force with the legislature, managed to get a law passed taking away our ability to balance-bill. Until then we could balance-bill certain patients in Blue Shield.

In any case, Blue Shield went to the legislature and circumvented the courts. That caused a lot of bitterness.

Now other fees are fixed. For instance, workers' compensation fees are fixed at Medicaid rates. This is done by the state rate-setting commission. Medicaid fees are also fixed. Medicaid is a federal program, but it's administered by the state. They had a very low fee schedule until the last year. We worked with them and did see progress. They improved the fees and they made some improvements in the billing practices that were bothering us. Although the fees are better, they are still low.

**"The deans of the four medical schools tell us that the caliber of students coming into medical school now is not what it was a generation ago."**

Then there's Medicare. About two years ago, Massachusetts, in its usual pioneering fashion, passed a bill saying physicians had to accept the Medicare so-called reasonable fee as payment-in-full as a condition of licensing. This was a double whammy—one, we had to accept the Medicare fee as decreed by the federal government as payment-in-full and could not balance-bill, and two, if we didn't do it we couldn't either keep or renew our license.

**REECE:** *So if the physicians' income is fixed by Medicare, Medicaid, Blue Shield, and workers' compensation, almost 90 percent of what physicians bill must be "fixed." Where do these restrictions place physicians in the national scheme of income?*

**O'CONNOR:** Massachusetts physicians have always had incomes substantially lower than the rest of the country. I'm not sure of all of the reasons for that. There are four medical schools in a fairly small state, with many academic physicians. Traditionally doctors in Massachusetts have charged less compared to our colleagues in other parts of the country. Even so, Blue Shield fees are discounted 20 to 30 percent below usual and customary fees. The restrictions superimposed on already low incomes don't give you much room for making a living out of medicine.

**REECE:** *What impact do these incomes, coupled with the deteriorating professional climate, have on recruiting and retaining physicians?*

**O'CONNOR:** It affects recruiting and retaining physicians all along the line. The deans of the four medical schools tell us that the caliber of students coming into medical school now is not what it was a generation ago. Also, when the students finish medical school and are deciding which residencies to enter, top students are now going into orthopedic surgery, obstetrics, neurosurgery, ophthalmology—the high paying specialties, and many fewer go into internal medicine or family practice—the lower paying ones. You can understand that if the average student is $30,000 to $100,000 in debt coming out. Given these debts, lower incomes, and better economic opportunities outside the state, you can understand why Massachusetts-trained specialists leave.

**REECE:** *I understand 90 percent of hospitals in Massachusetts are having difficulty attracting physicians to their medical staffs.*

**O'CONNOR:** Yes, but before I get into that, I'd like to mention the resident-retention problem. At the Massachusetts General Hospital, for example, they train 10 anesthesia residents or fellows every year. In the last four years, none of the 40 people trained in Massachusetts have stayed here. Only a quarter of the residents trained in orthopedics now stay in Massachusetts, many fewer than before.

Now to return to what you just mentioned. We surveyed the 120 acute hospitals we have in this state. About 85 percent of the hospitals said they lacked doctors in certain specialties and were having a lot of trouble recruiting them. Ninety percent of those people said they had problems getting the doctors in certain specialties. In obstetrics and orthopedics, it's a very frightening picture.

**REECE:** *Why is it frightening?*

**O'CONNOR:** It's frightening now because many communities lack coverage. We have to divert ambulances because certain hospitals don't have specialists to take care of trauma cases involving orthopedic surgery or neurosurgery. We're forced to send patients out-of-state to have the care they would have gotten quite easily in-state before.

Also, what's happening doesn't appear in the figures. Take orthopedic surgeons, for example. In the hospital where I practiced there were six orthopedic surgeons a few years ago. Now there are one and two halves, meaning there's one orthopedic surgeon doing a full range of complicated operations while the other two are performing minor surgery and doing office practice. Three orthopedic surgeons have left and one is conducting an office practice in Boston just examining people for an insurance company. Many obstetricians are not doing obstetrics, but just practicing gynecology. Many obstetricians will not now deliver a primipara over age 30 or 35. That's scary. Not for us, but for the people. We're worried about the patients' access to care.

**REECE:** *I understand this access crisis is truly frightening on Cape Cod, the most rapidly growing part of Massachusetts, where there are fewer orthopedic surgeons and obstetricians than ever before.*

**O'CONNOR:** Yes, the crisis there is severe in those specialties, but also in internists and family physicians. On the Cape, patients can't find doctors, so they go to the emergency rooms at hospitals. Emergency room doctors can do only so much.

In Hyannis, "doc in the boxes"—outpatient clinics for profit—have sprung up, but they only provide care in the daytime for patients who can pay. They refer the others to the emergency room after hours. They close about five in the afternoon. The load on the emergency room is substantial and sometimes overwhelming.

In Cape Cod Hospital a couple of years ago they had 34 internists; now they have 17. Many have left for greener pastures. The remaining internists simply cannot physically back up the emergency room. They have their own practices, and summer is the busiest time of year for them. There's a crisis down there. We talked with the doctors in Barnstable County around Hyannis. We tried to get the "doc in the boxes" to stay open until 10 at night. We tried in other ways to see if we could relieve the doctors. It wasn't easy.

**"In Cape Cod Hospital a couple of years ago, they had 34 internists; now they have 17. Many have left for greener pastures."**

**REECE:** *Isn't the crisis compounded in Barnstable County by the fact that it's classified as a "rural region" and therefore has lower reimbursement rates?*

**O'CONNOR:** Reimbursement is lower, but even greater problems exist. One is that the Cape is a desirable place in which to retire. The weather is mild and pleasant six months of the year. Many Medicare people go there. In addition, a large cadre of people work there during the summer for cash and probably don't pay their share of taxes. Then in the winter they stay there and go on Medicaid. So we have large Medicare and Medicaid populations there.

**REECE:** *The physicians in this state have a less-than-comfortable feeling with Governor Dukakis, the Democratic presidential candidate. Why is that?*

**O'CONNOR:** That's a hot potato. I don't believe a medical society should endorse or not endorse a candidate for president. You know the dates during which Dukakis was governor, and I've given you the dates these various restrictions were put on us. There's no question that Massachusetts has become a laboratory for social experimentation. I will say these various financial restrictions on medical practice have been done in good faith. They were done to keep the cost of medicine as low as possible for patients. That's something we want to do, too, but we feel that, in spite of good intentions, their efforts have backfired, and the result is decreased access to care for those the regulators wanted to protect.

**REECE:** *Does the medical society have a position on the recently passed Massachusetts universal health insurance plan?*

**O'CONNOR:** Yes. We think it was probably pushed through too quickly, but the concept of insuring the uninsured or marginally insured is a good one. But we're cautious. We don't know exactly what will be mandated in the bill. The overall problems with the universal health bill are twofold.

First, we do not know what will be mandated, and everything you add costs a lot more money. There are allegedly 600,000 people who will be covered under this bill. Some of them will be shifted from Medicaid to this bill.

Second, nobody is sure what the costs will be. Figures from the governor's office are something like $600 million. It could be three times that. Still, the program is important, and we have promised to work with the governor's office and the legislature to do all we can to make the thing workable and sensible and beneficial to the people at risk.

**REECE:** *Let me just understand a few demographic facts about Massachusetts. What is the population of Massachusetts, and how many practicing physicians are there?*

**O'CONNOR:** The population is about 6 million. That would mean that under the bill you just mentioned there would be about one-tenth of the population participating in the program. The number of licensed physicians in this state has been under dispute recently, but as far we can tell the overall number is around 20,000 or more. The number of such physicians in actual day-to-day medical practice is probably about 16,500. We have about 14,000 members in our medical society.

**REECE:** *As a medical society, you're saying spotty shortages of physicians exist. I gather the state government or Blue Cross is saying that there's a surplus. Is my interpretation incorrect?*

**O'CONNOR:** I think your interpretation is correct. There is a divergence of opinion, however. It depends on where you get the figures. It's in Blue Cross' interest to say there's no problem with the numbers of physicians. For instance, Blue Cross says we have plenty of orthopedic surgeons, about 700 of them. We say there are fewer than 400 orthopedic surgeons. Blue Shield lists anybody who performs an orthopedic procedure as an orthopedic surgeon. Nothing could be further from the truth. Blue Shield's numbers are not very sensibly arrived at. They include physicians who signed up many years ago and might have moved out of state, or who may not even be alive.

**REECE:** *And in effect, there may be even fewer orthopedic surgeons than you count. In your report of 302 orthopedic surgeons who answered your questionnaire, 133 reported downsizing their practices. A total of 54 said they had stopped providing surgical services, another 29 said they've downgraded their service, and an additional 21 said they were performing services only in their offices. One hundred thirty-three out of 302 surgeons means more than one-third of them are practicing part-time.*

**O'CONNOR:** That's right. That's why we think Blue Shield's figures don't mean anything, and we have physician shortages and access to care problems.

**REECE:** *As president of this society, how do you hope to remedy these problems in the next several years?*

**O'CONNOR:** What we want to do is to improve the climate for the practice of medicine in this state—to take it out of the legislative arena and out of the courts. We want to let doctors do what doctors should be doing—that is taking care of patients. I know in Minnesota you have regulation of another sort, by commercial enterprises. We have that, too, but not to the extent you have.

Doctors are getting a lot of bad press, and they don't deserve it. I know you and I probably remember the days when the practice of medicine was a lot more enjoyable than it is now, for various reasons. I think the reasons were mostly that a doctor was more or less allowed to practice medicine the way he or she thought was right.

**"Many communities lack coverage. We have to divert ambulances because certain hospitals don't have specialists to take care of trauma cases involving orthopedic surgery or neurosurgery."**

That doesn't mean the doctor should have complete carte blanche. The public has an interest. The public should be convinced that the money they're spending for their medical care and the time they're spending is reasonably spent. They should know the doctors they are going to are reasonably well trained and able to do what should be done for them. That should be expected and, to some extent, there has to be some regulation. Not as much in Massachusetts, but in New York, where large numbers of doctors (10,000 to 20,000) don't go to hospitals at all. How do you regulate them? Or, at least, how do you make sure they're doing what they should be doing?

How are we going to do it? We want to get the message across to people that doctors are doing a reasonable job and are interested in their problems and want to help them. I suppose it can best be done in the doctor's office. I went through a year of telling my patients that I was going to leave, and it was kind of hard to do. Many of them are old friends and we had been through a lot of things together. It was hard leaving them, but it had to be done. I am mentioning my experience because doctors in the periphery can do a lot to further public relations for themselves. Also, we want to form coalitions with different groups—the elderly, lawyers, nurses, hospitals, with everybody involved in health care—to try to make the whole thing sensible.

**REECE:** *Let's face it. A battle is being waged in Massachusetts for the public mind. In the releases from the medical society, you're buttressing your position with carefully designed polls and surveys to back up what you're saying: that there is genuine distress, there are physicians leaving, there are problems recruiting, and there is a deepening crisis in the state.*

**O'CONNOR:** We do surveys, not to try to prove something, but to try to find out what's going on. That's the way we're trained. And yet it's understandable that the public, not being trained that way, might not believe that. So we did use outside groups for at least two of those surveys to make them more credible and to be more objective.

**REECE:** *From reading the papers here, I can see you are reaching the press. Your message is getting out that genuine physician distress exists. The distress is so genuine it's driving physicians out of the state.*

**O'CONNOR:** One of the avenues for informing the public is through press relations. Last week it happened that we had quite a bit of exposure on radio, TV, and in the printed press. Naturally we want to continue that.

The other important thing I think that doctors all over the country can do is talk about purely medical things, like AIDS or vaccinations. We know the most about those things. We genuinely worry about them. We should put our message across. The public will believe us.

**REECE:** *What do you think physicians from other states have to learn from the Massachusetts experience?*

**O'CONNOR:** I've been going to other states, talking to state legislators about the problems in Massachusetts, and warning them about how good intentions to reduce costs can create nightmares. In this state, regulatory cost-reduction experiments have backfired because it has made the climate of medicine so oppressive that many doctors have either left, reduced their practice substantially, or retired early. The end result is just the opposite of what was expected, in that our patients all over the state do not have access to the kind of medicine to which we think they should have access.

That's bad. That's what worries us. We want to reduce the regulatory climate if we can. We're working with some legislators, and some of them have actually admitted to us that our Chapter 475, the mandatory Medicare bill, was a mistake.

One thing we haven't mentioned yet is the Board of Registration in Medicine. The Board of Registration in Medicine is a licensing board. Up to a couple of years ago it was so inadequately funded that it could barely keep track of the names and numbers of all the players. We fought very hard to get the board funded. The board was criticized very severely in national studies for disciplining almost no doctors. Then they went the other way. The board now consists of large numbers of lawyers. I refer you to the June 10 issue of AMA News for details on that. They managed to nail some of the best doctors in the country, including a very well known academic cardiologist who is a friend of mine. They got him for a very minor matter and put a punishment on him that was totally unwarranted. We have discussed this with the secretary in charge of the board, and I think they see the error of their ways. Administratively, we're beginning to modify the rather unwarranted harshness and overreaction of the board. They had been collecting scalps, but not really doing a good job. We are working hard with the governor's office to correct the problems.

**REECE:** *For a long time Massachusetts has had an image as a state with the best that medicine has to offer. It is too bad if that image is now being undermined.*

**O'CONNOR:** Yes, Massachusetts has a reputation as being one of the Meccas of medicine. I think that is still true, but the government and other third parties, despite good intentions, have been eroding the infrastructure of medical practice. They've been doing all they can to make things hard on us. ■

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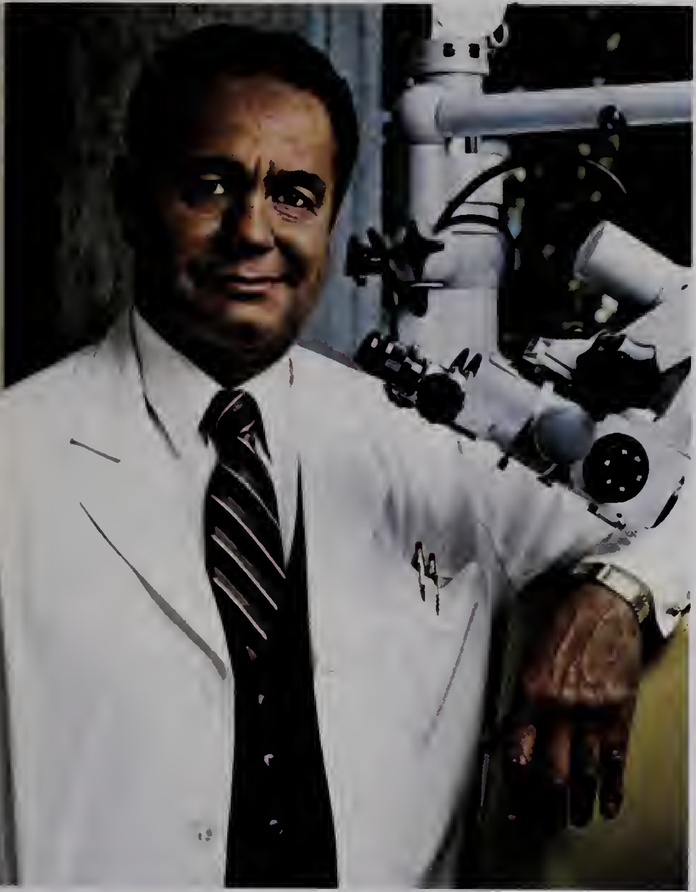

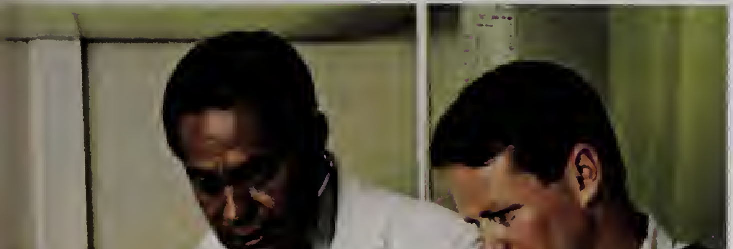

Dr. Tipton and residents examining post-operative patient in recovery room.

## DALE L. TIPTON, M.D.

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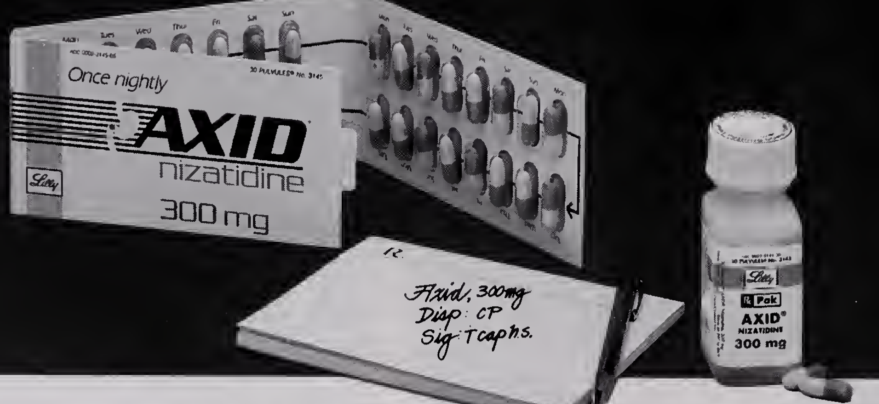

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3 Pharmacokinetic studies in patients with hepatorenal syndrome have not been done. Part of the dose of nizatidine is metabolized in the liver. In patients with normal renal function and uncomplicated hepatic dysfunction, the disposition of nizatidine is similar to that in normal subjects.

*Laboratory Tests*—False-positive tests for urobilinogen with Multistix® may occur during therapy with nizatidine

*Drug Interactions*—No interactions have been observed between Axid and theophylline, chlordiazepoxide, lorazepam, lidocaine, phenytoin, and warfarin. Axid does not inhibit the cytochrome P-450-linked drug-metabolizing enzyme system; therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur. In patients given very high doses (3,900 mg) of aspirin daily, increases in serum salicylate levels were seen when nizatidine, 150 mg b.i.d., was administered concurrently

*Carcinogenesis, Mutagenesis, Impairment of Fertility*—A two-year oral carcinogenicity study in rats with doses as high as 500 mg/kg/day (about 80 times the recommended daily therapeutic dose) showed no evidence of a carcinogenic effect. There was a dose related increase in the density of enterochromaffin-like (ECL) cells in the gastric oxyntic mucosa. In a two-year study in mice, there was no evidence of a carcinogenic effect in male mice, although hyperplastic nodules of the liver were increased in the high dose males compared to placebo Female mice given the high dose of Axid (2,000 mg/kg/day, about 330 times the human dose) showed marginally statistically significant increases in hepatic carcinoma and hepatic nodular hyperplasia with no numerical increase seen in any of the other dose groups. The rate of hepatic carcinoma in the high dose animals was within the historical control limits seen for the strain of mice used. The female mice were given a dose larger than the maximum tolerated dose, as indicated by excessive (30%) weight decrement compared to concurrent controls, and evidence of mild liver injury (transaminase elevations). The occurrence of a marginal finding at high dose only in animals given an excessive, and somewhat hepatotoxic dose, with no evidence of a carcinogenic effect in rats, male mice, and female mice (given up to 360 mg/kg/day, about 60 times the human dose), and a negative mutagenicity battery is not considered evidence of a carcinogenic potential for Axid

Axid was not mutagenic in a battery of tests performed to evaluate its potential genetic toxicity, including bacterial mutation tests, unscheduled DNA synthesis, sister chromatid exchange, and the mouse lymphoma assay.

In a two-generation, perinatal and postnatal, fertility study in rats, doses of nizatidine up to 650 mg/kg/day produced no adverse effects on the reproductive performance of parental animals or their progeny.

*Pregnancy—Teratogenic Effects—Pregnancy Category C*—Oral reproduction studies in rats at doses up to 300 times the human dose, and in Dutch Belted rabbits at doses up to 55 times the human dose, revealed no evidence of impaired fertility or teratogenic effect, but, at a dose equivalent to 300 times the human dose, treated rabbits had abortions, decreased number of live fetuses, and depressed fetal weights On intravenous administration to pregnant New Zealand White rabbits, nizatidine at 20 mg/kg produced cardiac enlargement, coarctation of the aortic arch, and cutaneous edema in one fetus and at 50 mg/kg it produced ventricular anomaly, distended abdomen, spina bifida, hydrocephaly, and enlarged heart in one fetus. There are, however, no adequate and well-controlled studies in pregnant women. It is also not known whether nizatidine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Nizatidine should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

*Nursing Mothers*—Nizatidine is secreted and concentrated in the milk of lactating rats Pups reared by treated lactating rats had depressed growth rates. Although no studies have been conducted in lactating women, nizatidine is assumed to be secreted in human milk, and caution should be exercised when nizatidine is administered to nursing mothers.

*Pediatric Use*—Safety and effectiveness in children have not been established.

*Use in Elderly Patients*—Ulcer healing rates in elderly patients are similar to those in younger age groups. The incidence rates of adverse events and laboratory test abnormalities are also similar to those seen in other age groups. Age alone may not be an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function.

**Adverse Reactions**: Clinical trials of nizatidine included almost 5,000 patients given nizatidine in studies of varying durations. Domestic placebo-controlled trials included over 1,900 patients given nizatidine and over 1,300 given placebo. Among the more common adverse events in the domestic placebo-controlled trials, sweating (1% vs 0 2%), urticaria (0.5% vs <0.01%), and somnolence (2.4% vs 1.3%) were significantly more common in the nizatidine group. A variety of less common events was also reported; it was not possible to determine whether these were caused by nizatidine

Axid® (nizatidine, Lilly)

*Hepatic*—Hepatocellular injury, evidenced by elevated liver enzyme tests (SGOT [AST], SGPT [ALT], or alkaline phosphatase), occurred in some patients possibly or probably related to nizatidine. In some cases, there was marked elevation of SGOT, SGPT enzymes (greater than 500 IU/L), and in a single instance, SGPT was greater than 2,000 IU/L. The overall rate of occurrences of elevated liver enzymes and elevations to three times the upper limit of normal, however, did not significantly differ from the rate of liver enzyme abnormalities in placebo-treated patients. All abnormalities were reversible after discontinuation of Axid.

*Cardiovascular*—In clinical pharmacology studies, short episodes of asymptomatic ventricular tachycardia occurred in two individuals administered Axid and in three untreated subjects.

*Endocrine*—Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity due to Axid. Impotence and decreased libido were reported with equal frequency by patients who received Axid and by those given placebo. Rare reports of gynecomastia occurred.

*Hematologic*—Fatal thrombocytopenia was reported in a patient who was treated with Axid and another $H_2$-receptor antagonist. On previous occasions, this patient had experienced thrombocytopenia while taking other drugs.

*Integumental*—Sweating and urticaria were reported significantly more frequently in nizatidine than in placebo patients. Rash and exfoliative dermatitis were also reported.

*Other*—Hyperuricemia unassociated with gout or nephrolithiasis was reported

**Overdosage**: There is little clinical experience with overdosage of Axid in humans. If overdosage occurs, use of activated charcoal, emesis, or lavage should be considered along with clinical monitoring and supportive therapy Renal dialysis for four to six hours increased plasma clearance by approximately 84%.

Test animals that received large doses of nizatidine have exhibited cholinergic-type effects, including lacrimation, salivation, emesis, miosis, and diarrhea Single oral doses of 800 mg/kg in dogs and of 1,200 mg/kg in monkeys were not lethal. Intravenous $LD_{50}$ values in the rat and mouse were 301 mg/kg and 232 mg/kg respectively PV 2091 AMP [041288]

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## U OF M HOSPITAL PICKED BY PRUDENTIAL

The University of Minnesota Hospital and Clinic-Variety Club Children's Hospital has been named one of eight centers nationwide where people can receive coverage for organ transplants under a new Prudential Insurance Company program.

The program is designed to guide patients to institutions with superior records in advanced medical treatments. It will be available to most people enrolled in Prudential's group health plans and health maintenance organizations.

"The University of Minnesota was selected to participate because of its experience and high success rates in kidney, heart and liver transplants," said Dr. Dan Dragalin, Prudential vice president for group medical services.

## NEW ULCERATIVE COLITIS TREATMENT

A new treatment may bring relief to ulcerative colitis (UC) patients who now experience serious drug side effects, researchers at the Mount Sinai School of Medicine in New York have confirmed. Approximately 650,000 Americans suffer from this disease, characterized by rectal bleeding, severe abdominal pain, and chronic diarrhea. The only cure is to remove part or all of the colon and rectum.

A team led by Samuel Meyers, M.D., found that the new medication, olsalazine, alleviated symptoms and prolonged periods of remission without adverse reactions in 50 percent of a group of subjects who could not tolerate sulfasalazine, which has been the mainstay of UC therapy for the past forty years.

## NEW U OF M CANCER CENTER

The University of Minnesota has established a cancer center as a cooperative effort of the approximately 150 faculty members involved in cancer research and treatment in the university's medical school and hospital and clinic, the colleges of biological sciences, pharmacy and veterinary medicine, and the schools of dentistry and public health. The center is designed to foster and coordinate the highest quality basic and clinical cancer research, patient care, and public education. Researchers will investigate the causes, diagnosis, and treatment of cancer through studies of genetics, immunology, drug use, and other factors.

A scheduled fund drive is expected to raise $30 million to provide support for center facilities and programs.

## NEW HYPERCHOLESTEROLEMIA DRUG

Lovastatin, a new lipid-lowering drug that works by disrupting cholesterol-synthesis, is both more effective and better tolerated than cholestyramine in treating primary hypercholesterolemia, says a study in the July 15, 1988 issue of the *Journal of the American Medical Association*. The multi-center study, coordinated by the manufacturer of lovastatin, involved 264 patients with elevated low-density lipoprotein (LDL) levels who took either 12 grams of cholestyramine, 20 mg of lovastatin, or 40 mg of lovastatin twice a day. Both drugs substantially reduced total plasma cholesterol by lowering LDL, but lovastatin was considerably more effective, particularly at the 40 mg level, where the mean total plasma cholesterol reduction was twice that seen with cholestyramine, the authors say.

## NEW ABBOTT NORTHWESTERN PRESIDENT

Robert K. Spinner has been named president and chief operating officer of Abbott Northwestern Hospital in Minneapolis. His responsibilities include management of all hospital operations. He was previously executive vice president, a position he had held since 1983.

## TRACING HIV-INFECTED PARTNERS

The American Medical Association, at its 1988 annual meeting, called for a nationwide effort to trace the sexual partners of people infected with the Human Innumodeficiency Virus (HIV) in an effort to slow the spread of AIDS. The AMA also urged prisons to test inmates for HIV antibodies.

## HOSPITALS IN THE RED IN '87

Minnesota hospitals lost $6.8 million in 1987, a turnaround from the $36 million in operating profits they reported in 1986, according to the Minnesota Hospital Association (MHA).

The state's hospitals had revenues of $2.4 billion in 1987, compared with $2.2 billion the previous year, the survey of 160 hospitals showed.

MHA executives attributed the losses to inadequate payment rates from government and private payers.

*Source: United Press International*

## MRI RESEARCH AT MAYO

A major research program to explore new and improved uses of Magnetic Resonance Imaging (MRI) will begin this fall at Mayo Clinic. The budget for the program, $7.5 million over three years, makes it the largest single Mayo-funded research project in the institution's history.

The purpose of the research center, set to open in September, will be to improve MRI imaging for biomedical purposes and to explore new uses. The center will study how to view moving body tissues, ways to generate images as they are happening, and how to use MRI to measure body chemicals.

## INTENTIONAL INJURIES ON THE RISE

Intentional injury accounts for an increasing proportion of trauma cases in the United States and an increasing economic burden on treatment centers, a report in July's *Archives of Surgery* says. The report's authors, Gregory K. Luna, M.D., of the University of Washington School of Medicine, Seattle, and colleagues, followed up all victims of intentional injury admitted during one year at Seattle's Harborview Medical Center, a regional trauma center. Seventeen percent of the 2,451 trauma patients admitted were victims of nonaccidential injury; the majority were severely injured.

Hospital charges averaged $13,000 per patient, with three-fourths requiring governmental funding for medical care. Six months after the authors finished their review, only two-thirds of all expenditures had been reimbursed. "These patients represent a high medical services use group and consume a disproportionately high percentage of medical resources," they say.

## NEW UMD MED SCHOOL DEAN

Ronald D. Franks, M.D., formerly associate dean of student and curricular affairs at the University of Colorado School of Medicine, has been named dean of the School of Medicine at the University of Minnesota, Duluth. Franks, who graduated from the University of Michigan Medical School in 1971, will begin his duties in October.

## HOSPITAL USE IN HMO PATIENTS

Health maintenance organization patients may use hospital services more than non-HMO patients, a study by the Minneapolis-based HMO, Group Health, indicated. Group Health noticed this correlation in employer groups that offer HMOs as a health care option for more than two years. The study also noted that new HMO enrollees use hospital services, on the average, 150 percent more than those already enrolled.

## MEDTRONIC ACQUISITION

Medtronic Inc. of Minneapolis has acquired Versaflex Delivery System Inc. of San Diego, California, for $95 million and plans to operate the catheter manufacturer as a wholly owned subsidiary. Medtronic, which makes cardiac pacemakers and other medical devices, was Versaflex's exclusive distributor outside the United States before the merger and held five percent of its stock.

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*Source:* Healthweek, *June 20, 1988*

## A SHOT IN THE ARM FOR NURSING

Separate versions of a bill that would provide about $300 million over the next three years to help alleviate nursing shortage problems, have passed the House Energy and Commerce Committee and the Senate Labor and Human Resources Committee. Both measures would provide assistance for nurses as well as nursing students. Currently, $56 million is earmarked for such programs for the next three years.

## MORE FEDERAL LAB CONTROL?

Two bills have been introduced in the House Energy and Commerce Committee that would increase federal control over clinical laboratories. The first measure would tighten quality control measures in labs and impose stiffer penalties. It would also prohibit physicians from referring patients to labs in which the physician has a financial stake, unless the facility was investor owned.

The second bill would limit Medicare and Medicaid payment for lab services to the most competitive market price available.

## HMOS, MED PLANS SHORTCHANGED

Health maintenance organizations and competitive medical plans with Medicare contracts were underpaid a total of $120 million in 1987, said a study conducted for the Group Health Association of America, a Washington-based trade group. The 138 managed-care plans that have Medicare contracts didn't receive enough money because the Health Care Financing Administration made mistakes in calculating the per capita cost, which the agency uses to predict what it will spend on the average beneficiary.

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*Source:* Modern Healthcare, *July 15, 1988*

## UNITED HEALTHCARE TO SELL UNIT

United Healthcare Corporation, the Minnetonka-based health maintenance organization, has agreed to sell its Deferred Compensation Administrators (DCA) unit, a regional benefits manager and administrator, to a group of DCA employees. Terms weren't disclosed.

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*Source:* Modern Healthcare, *July 1, 1988*

# RISK MANAGEMENT REVIEW

## MMIE OB Risk Management Guidelines Approved

Physicians have heard a great deal about a crisis of birth-related malpractice claims. Media attention has diminished in recent years, but the crisis has not abated. Numerous claims are still being filed. The size of settlements and awards is increasing. And, despite extensive educational efforts, the same types of preventable physician errors that were identified at the start of the crisis are continuing to cause patient injuries and handicap the defense of claims.

In 1987, the Minnesota Medical Insurance Exchange (MMIE) OB Risk Management Task Force was formed to review the current status of birth-related claims and the need for enhanced obstetrical risk management by physicians and hospitals. The task force, chaired by Dr. Paul Sanders, a family physician from Cambridge, Minnesota, is composed of obstetricians and family physicians from the metropolitan area and greater Minnesota.

After extensive discussion and review of claims, the task force determined that more aggressive and direct physician education is needed about risk management issues in birth-related malpractice claims. As a result, the task force developed a set of OB risk management guidelines regarding perinatal documentation and the capabilities of hospitals to provide for emergency cesarean sections.

The guidelines are not an attempt to set clinical standards of obstetrical care. Rather, they are non-clinical risk management recommendations intended to address some of the most common, preventable problems that contribute to patient injuries and jeopardize the defense of birth-related malpractice claims. The guidelines are stated generally and should not be deemed inclusive of all acceptable methods of documentation and cesarean section preparation. In these areas, as in all aspects of medical care, the ultimate judgment of the physician, based on the circumstances presented by each patient, must prevail.

The guidelines have been approved by the MMIE Risk Management Committee and Board of Directors. They have been distributed to all MMIE-insured physicians involved in any phase of obstetrical care with the expectation that they will be carefully studied and followed by each physician.

The guidelines have received the enthusiastic support of the MMIE Underwriting Department. Later this year, the Underwriting Committee will be determining whether compliance with the guidelines should become a factor in the application and renewal process.

The task force considers the guidelines to be an introductory step of a dynamic process and will continue to review birth-related claim experience and revise or expand the guidelines as appropriate to respond to identified risk management problems.

### GUIDELINES

#### Documentation

**Prenatal Documentation:** No single type of prenatal recordkeeping form is recommended at this time. However, any recordkeeping format used should include documentation of:

1. Comprehensive health history.
2. Pertinent family and social history.
3. Comprehensive physical examination.
4. Results of necessary or indicated laboratory tests.
5. Identification of risk factors; plan for ongoing management of identified risk factors.
6. Gestational age determination; plan for ongoing management of identified gestational age problems.
7. Expected date of delivery (EDC), updated as appropriate.
8. Appropriate consultation or referral when indicated.
9. Any patient refusal of recommended tests, consultation, or referral, and discussion with the patient of the risks of refusal and alternatives to recommended actions.

**Intrapartum Documentation:** No single type of intrapartum recordkeeping format is recommended at this time. However, intrapartum documentation should contain:

1. Narrative report, preferably dictated, of significant antepartum events and the labor, delivery, and

immediate postpartum periods. This report should include the reasoning behind decisions made by the physician in handling events of the intrapartum period and should be completed shortly after delivery.

**2.** Record of appropriate fetal monitoring and the physician's and/or allied health care providers' actions in response to monitoring results; or record of the patient's refusal to undergo recommended monitoring and record of the discussion with the patient of the risks of refusal and alternatives to the recommended monitoring.

**3.** Actual tracings from any electronic fetal monitoring performed.

### Emergency Cesarean Section Capabilities

Each hospital to which physicians admit obstetrical patients should have the capability to provide for cesarean section deliveries within 30-60 minutes, depending on the location and level of care provided by the hospital. If such capabilities are not present, the physician's record of the obstetrical care should include documentation of discussion with the patient regarding the risks of, and alternatives to, admission to that hospital.

These guidelines are intended to be advisory only. They are not meant to set clinical standards of obstetrical care, nor do they attempt to detail all acceptable methods of documentation or cesarean section preparation. As in all aspects of medical care, the judgment of the physician, based on the circumstances presented by each patient, must prevail. ■

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**Health One Continuing Medical Education**

**Fall 1988 Conference Schedule**

September 28 **Practice enhancement seminar for physician consultants.** "Surviving And Prospering In The 90s" featuring Greg Korneluk of the Practice Enhancement Institute, Boca Raton, Florida. United Hospital/Children's Hospital of St. Paul Conference Center, St. Paul. By invitation only.

October 1 **Health One Career Fair.** "The Successful Business Of Medicine" (Lessons you didn't learn in medical school). For medical residents and clinical fellows. Keynote speaker: William R. Fifer, M.D. United Hospital/Children's Hospital of St. Paul Conference Center.

October 14 & 15 **Current Clinical Cardiology Conference for Physicians,** and **Seventh Annual Jesse E. Edwards, M.D. Lectureship** featuring Robert Frye, M.D., Mayo Clinic. United Hospital/Children's Hospital of St. Paul Conference Center.

November 4 & 5 **New Ulm Seminar for Physicians.** Holiday Inn, New Ulm, Minnesota.

For further information, contact Beth Murphy, CME Coordinator, Medical Affairs Division, Health One. (612) 574-7716.

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Medical Affairs Division

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## Provided through the MMA Medical Education Subcommittee on CME Resources

For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; (612) 378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

## SEPTEMBER 1988

7-9 **The Transition from Clinician to Manager** Menninger Foundation; Topeka, Kansas. CONTACT: Jayne Roberta, Menninger Clinic, Box 829, Topeka, Kansas 66601-0829; (800) 288-7377.

9 **Issues in Perinatal Care** The Duluth Clinic & St. Mary's Medical Center; Fitgers Spirit of the North Theater, Duluth, Minnesota. CONTACT: James Brueggemann, M.D., 400 East 3rd Street, Duluth, Minnesota 55805; (218) 722-8364, Ext. 179.

9-10 **Mayo Surgical Symposium** Mayo Clinic/Mayo Foundation; Mayo Clinic, 200 First Street SW, Rochester, Minnesota 55905. CONTACT: Rita Kunz, Mayo Clinic, Postgraduate Courses, 200 First Street SW, Rochester, Minnesota 55905; (507) 284-2509.

9-10 **Policy and Practice in Long-Term Care Nursing Home Medical Directors' Conference** University of Minnesota; Continuing Education Department, Mayo Auditorium, University of Minnesota, East Bank Campus. CONTACT: Medical Directors' Conference, CME, University of Minnesota, Box 202, UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455.

12-16 **Team Management of Diabetes** International Diabetes Center; International Diabetes Center, Park Nicollet Medical Foundation, Minneapolis, Minnesota. CONTACT: Lucy Mullen, R.N., B.S., Assistant Director of Education, Park Nicollet Medical Foundation, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3393.

14-16 **Obstetrics and Gynecology** Annual Autumn Seminar, University of Minnesota; Department of Continuing Medical Education & Department of Obstetrics and Gynecology, Radisson South Hotel, Minneapolis, Minnesota. CONTACT: OB/GYN Seminar, Continuing Medical Education, University of Minnesota, Box 202, UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55455.

15-16 **Eleventh Annual Trauma & Critical Care Conference** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2075.

16 **Practical Pediatric Nutrition** Minneapolis Children's Medical Center; Minneapolis Children's Medical Center, 2525 Chicago Avenue South, Minneapolis, Minnesota. CONTACT: Debbie Bowman, MCMC, Medical Education, 2525 Chicago Avenue South, Minneapolis, Minnesota 55404; (612) 863-6206.

16 **Regional Conference on Angioplasty** Abbott Northwestern Hospital; Radisson Plaza Hotel, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

17 **Newborn Medicine for the Primary Care Practitioner-** Minneapolis Children's Medical Center; Minneapolis Children's Medical Center, 2525 Chicago Avenue South, Minneapolis, Minnesota. CONTACT: Debbie Bowman, MCMC, Continuing Medical Education, 2525 Chicago Avenue South, Minneapolis, Minnesota 55404; (612) 863-6206.

19-21 **Partners in Managing Type II Diabetes** International Diabetes Center; International Diabetes Center, Park Nicollet Medical Foundation, Minneapolis, Minnesota. CONTACT: Lucy Mullen, R.N., B.S., Assistant Director of Education, Park Nicollet Medical Foundation, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3393.

21 **Dermatology—CME** Mesabi Regional Medical Center, Mesabi Regional Medical Center, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746; (218) 262-4881, ext. 259.

23 **Common Neurologic Quandaries for Primary Care** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2075.

23 **Selected Problems in Diabetes Management** The Duluth Clinic & St. Mary's Medical Center; Fitgers Spirit of the North Theater, 600 East Superior Street, Duluth, Minnesota 55802. CONTACT: James Brueggemann, M.D., 400 East 3rd Street, Duluth, Minnesota 55805; (218) 722-8364, Ext. 179.

26-30 **Team Management of Diabetes** International Diabetes Center; International Diabetes Center, Park Nicollet Medical Foundation, Minneapolis, Minnesota. CONTACT: Lucy Mullen, R.N., B.S., Assistant Director of Education, Park Nicollet Medical Foundation, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3393.

30 **Northwestern Pediatric Society 1988 Annual Meeting** Northwestern Pediatric Society, Thunderbird Motel and Convention Center, Bloomington, Minnesota. CONTACT: Mark Nammacher, M.D., 6845 Lee Avenue North, Brooklyn Center, Minnesota 55429; (612) 566-9500.

30 **Medical Oncology for the Internist** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834), Minneapolis, Minnesota 55415; (612) 347-2075.

30 **Ethics Upper Limit: Health Care Resources in the '90s** St. Paul-Ramsey Medical Center; Earle Brown Center, St. Paul, Minnesota. CONTACT: Bonnie Young, St. Paul-Ramsey Medical Center, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

30 **Guilt: Recognition, Understanding, Letting Go** St. Paul-Ramsey Medical Center; Earle Brown Center, St. Paul, Minnesota. CONTACT: Bonnie Young, St. Paul-Ramsey Medical Center, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

## OCTOBER 1988

3-6 **AAFP Scientific Assembly** Department of Family Practice & Community Health-University of Minnesota; New Orleans, Louisiana. CONTACT: Debbie Bowman, MCMC, AAFP Scientific Assembly, Continuing Medical Education, 2525 Chicago Avenue South, Minneapolis, Minnesota 55404; (612) 863-6206.

7-8 **Head Injury Conference, Acute Management and Rehabilitation** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

10-11 **Advanced Trauma Life Support Seminar** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

10-14 **Team Management of Diabetes** International Diabetes Center; International Diabetes Center, Park Nicollet Medical Foundation, Minneapolis, Minnesota. CONTACT: Lucy Mullen, R.N., B.S., Assistant Director of Education, Park Nicollet Medical Foundation, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3393.

14 **Fifth Annual Geriatrics Conference** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

14-15 **3rd Annual MD Retreat** Minnesota Ambulance Association; Arrowood Resort, Alexandria, Minnesota. CONTACT: Minnesota Ambulance Association, 1821 University Avenue, Suite 160, St. Paul, Minnesota 55104-2801; (612) 645-9374.

14-15 **Cardiology Update** Abbott Northwestern Hospital; Downtown Holiday Inn, Mankato, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

17-21 **Team Management of Diabetes** International Diabetes Center; International Diabetes Center, Park Nicollet Medical Foundation, Minneapolis, Minnesota. CONTACT: Lucy Mullen, R.N., B.S., Assistant Director of Education, Park Nicollet Medical Foundation, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3393.

18 **Infectious Disease** Mesabi Regional Medical Center; Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota; (218) 262-4881, Ext. 259.

19-22 **Twenty-second Annual Orthopaedic & Trauma Seminar** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

20-21 **Emergency Medicine for Primary Care Physicians—Fifth Update** St. Paul-Ramsey Medical Center; Holiday Inn East, I 94 and McKnight Road, St. Paul, Minnesota. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

21 **Second Annual Cardiology Conference** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

21-22 **Front-line Neurology: Primary Care Management of Patients with Neurological Problems** Abbott Northwestern Hospital; Radisson Plaza Hotel, 35 South 7th Street, Minneapolis, Minnesota. CONTACT: Tim Schuh, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

27 **Directors of Medical Education (DME) Conference** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

27-28 **HCMC Medical Examiner Annual Forensic Science Seminar** Hennepin County Medical Center/Hennepin Faculty Assocites; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

## NOVEMBER 1988

4-5 **American College of Physicians Regional Meeting, Minnesota Chapter** American College of Physicians; Hyatt Regency Hotel, 13th and Nicollet, Minneapolis, Minnesota. CONTACT: Gerald R. Onstad, Department of Medicine, Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota 55415; (612) 347-2703.

16 **Gastroenterology** Mesabi Regional Medical Center; Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota; (218) 262-4881, Ext. 259.

17-19 **Primary Care Medicine—Sixth Update** St. Paul-Ramsey Medical Center; Holiday Inn East, I 94 and McKnight Road, St. Paul, Minnesota. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

18-19 **General and Peripheral Vascular Laser Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota. CONTACT: Tim Schuh, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

## DECEMBER 1988

1-3 **Annual Cardiopulmonary Medicine Course** St. Paul-Ramsey Medical Center; Holiday Inn East, I-94 and McKnight Road, St. Paul, Minnesota. CONTACT: Bonnie Young, St. Paul-Ramsey Medical Center, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

20 **Physical Medicine & Rehabilitation** Mesabi Regional Medical Center; Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746; (218) 262-4881, ext. 259.

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  - General Internist
  - Endocrinologist
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**Willmar, Minnesota 56201**

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**Lot For Sale:** Ultra-secluded 2-acre wooded lot in Eagan, $75,000, call Doug at 557-0314. (R)

**Pediatrician** wanted to join a 40-physician multispecialty group in northern suburbs of Minneapolis. The appropriate candidate will join the current Pediatric Department of four physicians in a very busy practice. Please address inquiries to: Bradford McKane, Comprehensive Medical Care, PA, 9055 Springbrook Drive, Coon Rapids, Minnesota 55433 or phone (612) 780-7032. (R)

**Family Physician** to join group of board-certified family practitioners and one board-certified general surgeon. Liberal vacation and education allowances. Competitive salary first year with incentive bonus and full membership after one year. Blue Earth is a community of 4,000 in southern Minnesota with a drawing area of 25,000. 43-bed hospital with adjoining clinic facilities. Complete ancillary support including anesthesiology, radiology, and pathology. Excellent opportunity for an aggressive young family physician. Please contact: Thomas E. Watts, M.D., Blue Earth Medical Center, Ltd., 520 South Galbraith, Blue Earth, MN 56013, Phone: (507) 526-7371, Personal Phone: (507) 526-3177; Marjeane Werner, Clinic Administrator, Phone: (507) 526-7371, Personal Phone: (507) 854-3682. (R)

**Wanted: Family Practitioner, Internal Medicine:** Central Minnesota. Starting salary $55,000. Write: Minnesota Medicine (813), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. (R)

**Twenty-nine Physician Multispecialty Clinic** located in desirable east-central Wisconsin location is seeking board-certified or board-qualified orthopedic surgeon to round out its services. Lab, X-ray, excellent hospital. Liberal guarantee and benefits. If interested, contact: D.F. Sweet, M.D., Fond du Lac Clinic, S.C., 80 Sheboygan Street, Fond du Lac, Wisconsin 54935. (R)

**Family Physician Sought** to join a group of five board-certified family physicians practicing in a city of 3,500 population in the beautiful Minnesota River Valley. New hospital with new attached clinic and satellite locations with the very latest in equipment. Very busy, growing practice. Contact: D. Carter, M.D., (612) 564-2511 (office), (612) 564-4409 (home), 295 Tenth Avenue, Granite Falls, Minnesota 56241. (R)

**General Surgeon and Family Physician** needed for busy five-physician practice. Guaranteed first-year salary with excellent benefits program. Located only 22 miles from Duluth on the beautiful North Shore of Lake Superior. Call collect: (218) 834-2171, or write Steve Bjorum, Executive Director, Community Health Center, 4th Street at 11th Avenue, Two Harbors, Minnesota 55616. (R)

**Family Physician/Emergency Room:** Full-time salary working weekends, primarily emergency room. Flexibility available. Falls Medical Center, PA, 105 Shorewood Drive, International Falls, Minnesota 56649. Please contact: A. Johnson, M.D., or A. Marc Gorden, M.D., at (218) 283-9431 for more information. (R)

**Family Practitioner, General Internist, and General Surgeon** to join 8-physician clinic in Cloquet, Minnesota, a community of 14,000 (30,000 service area), located 20 minutes from Duluth-Superior. The clinic facility is located one block from modern, well-equipped hospital. Cloquet enjoys a stable economy (forest products). Additionally, our community is noted for its excellent school system. First-year salary guarantee, paid malpractice, health and disability insurance, vacation, and study time. Contact: John Turonie, Administrator, Raiter Clinic, Ltd., 417 Skyline Boulevard, Cloquet, Minnesota 55720; (218) 879-1271. (R)

**Canterbury Inn Bed & Breakfast:** Rochester's unique alternative to hotel living. Victorian charm with modern comforts. Private baths, fireplace, central air conditioning, gourmet or special diet breakfast anytime, "tea-time" (wine, hors d'oeuvres, etc.) daily. Private, off-street parking, three blocks to Mayo Clinic and St. Mary's. A very special place for you, your colleagues, and your patients while in Rochester. $55/single, $65/double. 723 Second Street SE, Rochester, Minnesota 55902; (507) 289-5553. (R)

**BE/BC Internal Medicine, OB/GYN & Psychiatrist:** Excellent opportunity to join a well-established, progressive, 15-physician multispecialty group (7 FP, 4 IM, 2 GS, 1 OB/GYN, 1 DERM) located in an economically sound community of 19,000 (drawing area of 30,000), 65 miles south of Twin Cities. Full membership after one year. One FP retiring in 1987. Competitive salary and fringe benefit package. Contact: Pat Greenwood, M.D., or Jim Wilkus, Administrator, 134 Southview, Owatonna, Minnesota 55060; (507) 451-1120. (R)

**BE/BC OB/GYN or GYN/GYN SURGERY,** to join a busy 11-man multispecialty group in southern Minnesota, a community of 12,000 (trade area of 70,000), competitive salary and fringe benefits. Contact: Don Grandgenett, 8 a.m., Fairmont Medical Clinic, 800 Clinic Circle, Fairmont, Minnesota 56031; (507) 238-4263. (R)

**FP/GP Locum Available for Work** Lic. Minnesota, Wisconsin, SD, ND, Colorado, Utah, Missouri. Contact: Dr. Olin, 508 32nd Avenue South, Apt. 1, Moorhead, Minnesota 56560; (218) 233-1159. (R)

**Family Physician** wanted to join four physicians, one nurse practitioner, FP group practicing in two offices in Pine River and Pequot Lakes. Competitive salary. No OB. No HMOs. Rural area with outdoor recreational opportunities. Rotate hospital visits, emergency call; adequate free time. Call or write: C.R. Pelzl, M.D., Pine and Lakes Clinics, PO Box 88, Pine River, Minnesota 56474; (218) 587-4416. (R)

**Family Physician** needed to join group of five family physicians in St. Peter, Minnesota, population 9,000, located one hour south of Minneapolis. Contact: Doug Olmanson, M.D., or D.A. Nygard, Administrator, St. Peter Clinic, Ltd., 622 Sunrise Drive, St. Peter, Minnesota 56082; (507) 931-2110. (R)

**Family Physician** to join four others in a well-established, progressive practice serving a market of over 20,000 people. Wabasha, one of Minnesota's most historic, friendly, and beautifully scenic cities, is located on the Mississippi River and offers year-round recreational and sporting activities. Interested physicians please contact: Tom Crowley at (612) 565-4531 (collect). (R)

**Physicians—All Specialties:** Excellent opportunities nationwide. We specialize ONLY in physician placement! Call Earl Czech (612) 754-2556. North Central Staff Services, Inc., 11000 Central Avenue NE, #207, Minneapolis, Minnesota 55434. 6-9/88

**Pediatrician:** Ideal opportunity available immediately. Excellent location. Benefits. Apply to: Randall Warren, M.D., or Richard Moore, Administrator, Mork Clinic, P.A., 1833 2nd Avenue South, Anoka, Minnesota 55303; (612) 421-3680. (R)

**GP/FP/EM Available** as locum tenens, weekends. Board-certified. FP. Lic. Minn. Write: Box 35132, Minneapolis, Minnesota 55436. (R)

**Wausau Medical Center** is seeking BE/BC individuals in the following specialties: cardiology, dermatology, family practice, infectious disease, obstetrics/gynecology, pediatrics, and rheumatology. Modern clinic facility located across the street from modern, 300-bed hospital. Full partnership in three years. Easy access to lakes, woods, and mountains. Write (including CV) to: D.K. Aughenbaugh, M.D., Medical Director, Wausau Medical Center, 2727 Plaza Drive, Wausau, Wisconsin 54401. (R)

**St. Cloud**— Minnesota's fastest growing city—family practice physician, 2 pediatricians, 2 ob/gyns, BE/BC to join supportive primary care staff in a growing, successful, and innovative prepaid practice. New clinic facility. Full range of fringe benefits (competitive salary, liberal vacation, two weeks' education leave, retirement fund, etc.). Contact: Gary Strandemo, M.D., Central Minnesota Group Health Plan, 1245 15th Street North, St.Cloud, Minnesota 56303; (612) 253-5220. EOE. (R)

**Family Physician:** Dynamic 13-physician, 3-office, single-specialty practice in northwest Minneapolis suburbs seeking additional associate, BE/BC; OB available. Competitive salary, full benefits, reasonable call and hospital rounds schedule. Contact: Dr. Ken Kephart, Northwest Family Physicians; (612) 476-6776. (R)

**Ten-person Multispecialty Clinic** seeking pediatrician and general surgeon. Financial package competitive. Outdoor hunting, fishing wonderland! Excellent lifestyle, practice, and opportunity. Interested individuals should contact: Nephtali Matta, Administrator, Medical Associates Clinic, 772 East Dakota, Pierre, South Dakota 57501; (605) 224-5901. *3-11/88

**Full-time, Part-time and Moonlighting Positions** in a four-hospital emergency department. Flexible schedules. Very competitive compensation. Malpractice furnished. Excellent benefits for full-time. Contact HealthEast, Department of Emergency Medicine, 403 Maria Avenue, St. Paul, Minnesota 55106; (612) 772-5446. 3-9/88

**Emergency Medicine, Brainerd, Minnesota:** Need BC/BE EM or FP. Join a board-certified emergency medicine MD and 18 MD multispecialty clinic. Two hours from Minneapolis. Beautiful lakes and trees; ideal for families. Call collect/write Curtis J. Nielsen, PO Box 524, Brainerd, Minnesota 56401; (218) 829-0354 or 829-4901. 3-9/88

**Minneapolis Suburban Pediatric Group** has opportunity for board-certified or eligible pediatrician. Busy, diverse practice with good compensation and fringe benefit package. Contact: Gene Inett, Administrator, Metropolitan Pediatric Specialists, P.A., 416 Southdale Medical Building, Edina, Minnesota 55435; (612) 920-9191. 3-9/88

**Gastroenterologist** wanted to join a group of four general surgeons with an active practice in GI endoscopy in Duluth, Minnesota. First-year salary guarantee and excellent benefits with early partnership opportunity. For details send CV to: Duluth Surgical Associates, Ltd., North Land Medical Office Center, 1000 East First Street, Suite 203, Duluth, Minnesota 55805. 3-9/88

**Board-Certified, Family Practice Physician** needed to join four family practitioners and one surgeon in clinic located 100 miles west of Twin Cities. Must be willing to handle OB and orthopedics. Excellent financial program and liberal vacation policy. Please call or write: Steven D. Medrud, M.D., Redwood Medical Center, 1100 East Broadway Street, Redwood Falls, Minnesota 56283; (507) 637-2985. 3-9/88

**Pediatrician, Family Practice, Anesthesiologist, Radiologist, Orthopedics, Psychiatrist:** 120-bed hospital assisting growing medical community in recruiting physician specialists to various established practices. Thirty-two practicing physicians are located in Mitchell, South Dakota, a community of 15,000 with rural referral area of approximately 32,000. Mitchell, the 1988 South Dakota Community of the Year, is a progressive, expanding community with an excellent education system and a vast array of outdoor sporting activities. Excellent first-year guaranteed income arrangements offered. Interested candidates should send CV to: Fred Slunecka, Executive Director, St. Joseph Hospital, Fifth and Foster, Mitchell, South Dakota 57301; 1-800-992-2002 or 605-995-2258. 3-9/88

**General Internist:** 14-member primary care group, including ten family physicians, one internist, surgeon, pediatrician and OB/GYN, requires a board-certified general internist to continue and develop a primary and consultative internal medicine practice in Marshall, Minnesota. Affiliated with a progressive multispecialty group of 72 physicians. USUAL CHAMBER OF COMMERCE CLAIMS NEARLY TRUE HERE! Contact C. Paul Martin, M.D., Doctors' Plaza, 300 South Bruce, Marshall, Minnesota 56258; (507) 532-9631 or send CV and references to: John Merickel, M.D., Willmar Medical Center, 101 Willmar Avenue SW, Willmar, Minnesota 56201. 4-10/88

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**Urgent:** FP/GP physicians needed for practice opportunities within ARIZONA and throughout the United States. Excellent group and solo opportunities available. For additional information, call (602) 990-8080; or send CV in confidence to: Mitchell & Associates, Inc., PO Box 1804, Scottsdale, Arizona 85252. (*R)

**Minnesota/Orthopedic Surgeon** to join a 40-physician multspecialty group in the northern suburbs of Minneapolis. The appropriate candidate will join a very busy two-physician department. Please address inquiries to: Dr. Ronald Jankowski, 5300 153rd Avenue, Ramsey, Minnesota 55303; or phone (612) 427-7180. 3-9/88

**Minnesota/Obstetrician-Gynecologist** to join a 40-physician multispecialty group in the northern suburbs of Minneapolis. The appropriate candidate will join a very busy five-physician ob/gyn department. Please address inquiries to: Dr. Ronald Jankowski, 5300 153rd Avenue, Ramsey, Minnesota 55303; or phone (612) 427-7180. 3-9/88

**Pediatrician & Family Practitioner:** Leading suburban multispecialty clinic needs peds & family practitioner. Outstanding opportunity to associate with quality professionals. Ideal community to live and raise a family. Contact: Richard Moore, Clinic Administrator, Mork Clinic, 1833 Second Avenue South, Anoka, Minnesota 55303; (612) 421-3680. 3-10/88

**True Low Load Universal Life Insurance:** Example: ($1,000,000 face, premium $12,000, first year guaranteed, cash surrender value is $11,466 for 45-year-old N.S. person), projected current surrender values: 3rd year, $35,368; 5th year, $60,683; 10th year, $146,329. Minimum amount, $100,000. Offered by a 100-year-old Best's rated A+ superior company. For a due diligence questionnaire and/or illustration, contact: Greybull Insurance Services, 1313 5th Street SE, Minneapolis, Minnesota 55414; (612) 379-3860. 1-9/88

**Physician Available:** Experienced, board-certified family practitioner with geriatric and administrative medicine fellowship training. No OB. Have had teaching experience. Write: Minnesota Medicine (826), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. 2-9/88

**Family Practitioners:** Several excellent situations exist in eastern Nebraska to join established clinics. Area offers opportunity to practice quality medicine relatively unencumbered with contractual reimbursement and regulatory concerns. Exceptional quality of life with outstanding financial and professional growth opportunities. Flexible compensation package can be designed to meet needs of physician. Send CV to: President's Office, Memorial Hospital, 450 E. 23rd, Fremont, Nebraska 68025. 2-9/88

**Iowa** - Decorah, located in northeastern Iowa, near the Minnesota, Wisconsin borders, is seeking a BE/BC psychiatrist. The opportunity exists to establish a solo practice with plans of adding an additional psychiatrist within a year. Brand-new psychiatric unit to be completed shortly. Located 70 miles outside of Rochester, Minnesota, and 60 miles from La Crosse, Wisconsin, Decorah, home of Luther College, covers a six-county area with a service population in excess of 125,000. Excellent guarantee with benefits, additional compensaton through the CMHC for contractual services.
**North Dakota** - Grand Forks (population 60,000, located in east-central North Dakota), is seeking a BE/BC adult psychiatrist to establish a private practice in the Grand Forks community. Excellent referral base of over 200 physicians within a service population in excess of 300,000. A modern, 300-bed hospital with fully staffed psychiatric unit. Excellent guarantee with benefits.
**Wisconsin** - Scenic lake country - St. Mary's Hospital in Rhinelander, Wisconsin, is seeking a BE/BC second psychiatrist. General adult psychiatrist with subspecialty interests in child/adolescent preferred. St. Mary's is a 150-bed facility with a 20-bed psychiatric unit. Complete psychiatric medical staff. Excellent guarantee with benefits.
**Contact:** Jean Ecos, 15975 West National Avenue, New Berlin, Wisconsin 53151; (414) 784-2777 (collect). *2-9/88

**Family Practice** St. Paul area. Includes air conditioned street-level building, six examining rooms, two private offices, two-car garage, and parking facilities, adequate storage in full basement. Write Minnesota Medicine (827), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. 3-10/88

**Family Practitioners:** Immediate opportunity for two board-certified/eligible family practice physicians to practice in a branch office setting in association with one established family practice physician. Generous first-year salary and fringe benefits. Located in the beautiful lakes country of northern Minnesota with abundant recreational opportunities. Call collect or write: Dr. Joseph Corser, (218) 694-2384, Bagley Medical Center, PO Box 186, Bagley, Minnesota 56621; or C.C. Lowery, Administrator, (218) 751-1280, Bemidji Clinic, Ltd., 1233 34th Street NW, Bemidji, Minnesota 56601. 6-1/89

**Anesthesiology, Dermatology, Family Medicine, General Surgery, Internal Medicine, Orthopedics, Otolaryngology, OB/GYN, Pediatrics, Psychiatry:** ALRMG is a 37-MD, non-HMO clinic in beautiful Albert Lea, Minnesota. These positions are created by retirements and development of new departments. The hospital and clinic are modern, progressive, established, and the primary health care providers in our service area. Excellent educational and cultural opportunities. Competitive income, excellent benefits, early shareholder status with first-year salary guarantee with incentive options. Send CV to: Administrator, ALRMG, 1602 Fountain Street, Albert Lea, Minnesota 56007-1642; or call (507) 373-8251 for further information. 3-10/88

**Family Practitioner** to join a progressive 12-physician practice at its Ellsworth, Wisconsin, branch. Rural community 40 miles from St. Paul, Minnesota. Liberal benefit package. Salary commensurate with background and experience. Contact: R.M. Hammer, M.D., River Falls, Wisconsin 54022; (715) 425-6701 or (612) 436-8809. (R)

**Internist** BE/BC with or without subspecialty training to join six other internists in 16-member multispecialty clinic in Worthington, Minnesota. Liberal vacation and meeting time including stipend. Contact: R.D. Sudmeier, M.D., or John J. Sieve, Administrator, Worthington Medical Center, PA, 508 Tenth Street, Worthington, Minnesota 56187; (507) 372-2921. 3-10/88

**Family Physicians:** Practice opportunities for three or four BC/BE family practitioners to practice in southwest Minnesota. Worthington Medical Center PA, a 16-member multispecialty group, seeks to expand its practice in Worthington and Jackson, Minnesota. Above-average salaries, liberal vacation, and standard benefits package. Contact: D. Anderson, M.D., or J. Sieve, Administrator, Worthington Medical Center, 508 Tenth Street, Worthington, Minnesota 56187; (507) 372-2921. 6-1/89

**Johnson & Falls Search Associates** represents new practice opportunities locally and nationally. Working exclusively in the area of physician search, we are committed to expanding your professional options while meeting our clients' needs. There are no fees to candidates. For a thorough, confidential search, send CV or call: Liz Johnson, or Pat Falls, Johnson & Falls Search Associates, 34 Forest Dale Road, Minneapolis, Minnesota 55410; (612) 922-0237. (R)

**Minnesota, Iowa, and Wisconsin Group Practice** positions are available for BE/BC physicians in the following specialties: family practice, adult/child psychiatry, internal medicine, occupational medicine, pediatrics, and obstetrics/gynecology. Competitive salary with benefits. Send letter of inquiry and CV to: Scott M. Lindblom, Fairview Clinic Services, 2312 South 6th Street, Minneapolis, Minnesota 55454; or call (612) 371-6235 or toll free 1-800-328-4661 ext. 6235. An equal opportunity employer. 2-9/88

**Mankato Clinic, Ltd.** is seeking BE/BC physicians in the following specialties: allergy, dermatology, invasive cardiology, oncology, urology, ophthalmology, and general internal medicine. The Mankato Clinic is a 38-doctor multispecialty group practice in south-central Minnesota with a trade area population of 150,000. Guaranteed salary first year, incentive thereafter with full range of benefits and liberal time off. For more information call Roger Greenwald, Administrator, or Dr. B.C. McGregor, (507) 625-1811 or write 501 Holly Lane, Mankato, Minnesota 56001. (R)

**General Surgeon,** board-eligible or board-certified, to join a group of four general surgeons in practice of general, vascular, and thoracic surgery in northern Minnesota. First-year salary guarantee, excellent benefits, and early partnership. For details send CV to: Duluth Surgical Associates, Ltd., North Land Medical Office Center, 1000 East First Street, Suite 203, Duluth, Minnesota 55805. 3-10/88

**Eagan Medical Office Space for Sublease:** Suite 215 contains six examination rooms, reception area, laboratory with built-in cabinets and countertops, office/work area with countertops, restroom, and storage. Cliff Drive is approximately five miles south of I-494 and eight miles south of Country Road 62 on Cedar Avenue. Call: (612) 927-6163. *2-9/88

**Minnesota, Duluth:** Immediate opening for emergency physician to join 150-physician multispecialty group as staff physician at St. Mary's Medical Center. Must have postgraduate training in primary care or emergency medicine with current ACLS/ATLS certification. Choice of 32 to 40+ hours per week. Salary above average for region. Excellent benefits plus bonus possibilities. Twenty-two thousand visits per year. Regional cardiac and pediatric center provides a full complement of tertiary services to the region as well. Duluth offers all the amenities of a big city without the hassles. Unsurpassed outdoor recreational opportunities. Respond with complete CV to: Stan Salzman, Executive Director, The Duluth Clinic, Ltd., 400 East Third Street, Duluth, Minnesota 55805; (218) 722-8364. 2-9/88

**Ten-person Multispecialty Clinic** seeking pediatrician and general surgeon. Financial package competitive. Outdoor hunting, fishing wonderland! Excellent lifestyle, practice, and opportunity. Interested individuals should contact: Nephtali Matta, Administrator, Medical Associates Clinic, 772 East Dakota, Pierre, South Dakota 57501; (605) 224-5901. *3-11/88

**Family Physician** needed to join group of five family physicians in St. Peter, Minnesota, population 9,000, located one hour south of Minneapolis. Contact: Doug Olmanson, M.D., or D.A. Nygard, Administrator, St. Peter Clinic, Ltd., 622 Sunrise Drive, St. Peter, Minnesota 56082; (507) 931-2110. (R)

**Unsecured Signature Loans:** $5,000-$60,000 for physicians. Use for any need including taxes, debts, investments, etc. No points or fees. Competitive rates. Level payments up to six years. Call toll free 1-800-331-4952, MediVersal, Department 114. *2-10/88

**Oxboro Clinics** is seeking part-time physicians to work at its covenience care clinic, Firstcare, located at 98th & Lyndale Avenue South, Bloomington, Minnesota. Position is in support of full-time physician. Weekday and weekend hours available, and professional liability insurance is provided. Oxboro specialists are on call to Firstcare at all times. For more information contact: Scott M. Lindblom, Fairview Clinic Services, 2312 South Sixth Street, Minneapolis, Minnesota 55454, or call (612) 371-6235. 1-9/88

**Minnesota Internist Seeks BE/BC Internist** to join his practice in a central Minnesota resort community. Beautiful lakes and expanding retirement area. New 162-bed hospital with all specialties. Offices in 5-year-old medical office building. Write: Minnesota Medicine (828), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. 4-12/88

**Internal Medicine:** General internist to join a 16-physician multispecialty clinic. Join three general internists serving a population base of 45,000. Offering competitive salary, bonus, low buy-in after one year. State-of-the-art ancillaries. Contact: Richard Graber, Administrator, Austin Medical Clinic, P.A., 101 14th Street NW, Austin, Minnesota 55912; (507) 433-7351. 3-11/88

**Pediatrician** to join existing two-person practice at the 23-physician multispecialty Winona Clinic, Ltd., in Winona, Minnesota. Located in the beautiful Mississippi River Valley of southeast Minnesota. The community with a 40,000 population trade area is the host of three colleges and a diverse industrial base. Send CV to: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, Minnesota 55987. 3-11/88

**Orthopedic Surgeon:** Board-certified/board-eligible to join a 23-physician multispecialty group in Winona, Minnesota. Total patient population draw area of 40,000. Interested physicians please contact: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, Minnesota 55987. 3-11/88

**Ophthalmology Practice For Sale:** Excellent opportunity for M.D. to assume general ophthalmology practice in southeastern Illinois. Gross income: $475k; low overhead; modern equipment (including lasers); facility on grounds of 100+ bed hospital; terms available; will introduce. Call or write: R.L. Hirsh Associates, Ltd., 1855 Union Boulevard, Bay Shore, NY 11706, Attn: Gregory Nizich; (516) 665-0439. 1-9/88

**Internal Medicine:** Little Falls, Minnesota, near St. Cloud; 11-physician group; 2 offices; 250-bed hospital/nursing home; attractive salary. Reply to: Minnesota Medicine (829), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. *3-11/88

**Immediate Opening:** BC/BE internist to join ABIM internist in dynamic expanding practice; competitive salary guaranteed with incentive formula; full partnership at end of one calendar year. Midwestern city with two large, well-equipped hospitals. Send CV and inquiries to: Minnesota Medicine (830), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. 1-9/88

**General Internist:** Marshfield Clinic, a 260-physician multispecialty group practice, is seeking BE/BC general internal medicine specialists to join its expanding department in Marshfield, Wisconsin. The department is currently staffed by 23 general internists with immediate plans to add seven or more additional members. The current call schedule is generally one night per month and one out of five weekends. An Internal Medicine Residency Program, University of Wisconsin Medical School affiliation, Medical Research Foundation, and ongoing new development, i.e., Geriatrics Evaluation Center and walk-in medicine contribute to a very stimulating environment. Our community of 20,000 offers strong economic stability combined with exceptional recreational, cultural, and educational opportunities. We offer a current starting salary up to $85,000 with salary in two years up to $110,000. Fringe benefit package outstanding. Send CV and references to: David L. Draves, Department of Administration, 1000 North Oak Avenue, Marshfield, Wisconsin 54449; or call collect (715) 387-5376. *1-9/88

**Psychiatrist/Chemical Dependency:** Psychiatrist interested in chemical dependency needed to join 220-physician multispecialty group with adjacent 447-bed hospital. Position includes inpatient services for chemical dependency unit with full range of outpatient chemical dependency services available. Evaluation and detoxification unit, outpatient chemical dependency clientele and followup, and general psychiatric practice also available.

Behaviorial Medicine Department is currently staffed by 7 psychiatrists, 1 child/adolescent psychiatrist and 2 psychologists. New clinic building recently completed.

Gundersen Clinic, Ltd., is located in La Crosse, Wisconsin. A progressive community of 50,000 built along the shores of the Mississippi River amid scenic bluffs, the city offers excellent recreational facilities. Numerous educational and cultural opportunities are provided by an expanding university with undergraduate and graduate degree programs and a private liberal arts college.

Excellent pension program, no investment required. Service organization. Write: Philip J. Dahlberg, M.D., Chairman, Personnel Committee, Gundersen Clinic, Ltd., 1836 South Avenue, La Crosse, Wisconsin 54601. An Equal Opportunity Employer. *1-9/88

**Family Practice:** Marshfield Clinic is seeking BE/BC family practitioners to join its expanding department in Marshfield. The department is currently staffed by five family practitioners with plans to add three additional members. With the exception of obstetrics, which is done by staff obstetricians, the practice offers a full range of inpatient and outpatient services. Full specialty consultation is readily available in-house. Our community of 20,000 offers strong economic stability combined with exceptional recreational, cultural, and educational opportunities. We offer a current starting salary up to $85,000 with salary in 2 years up to $110,000. Fringe benefit package outstanding.

Send CV and references to: David L. Draves, Department of Administration, 1000 North Oak Avenue, Marshfield, Wisconsin 54449; or call collect (715) 387-5376. *1-9/88

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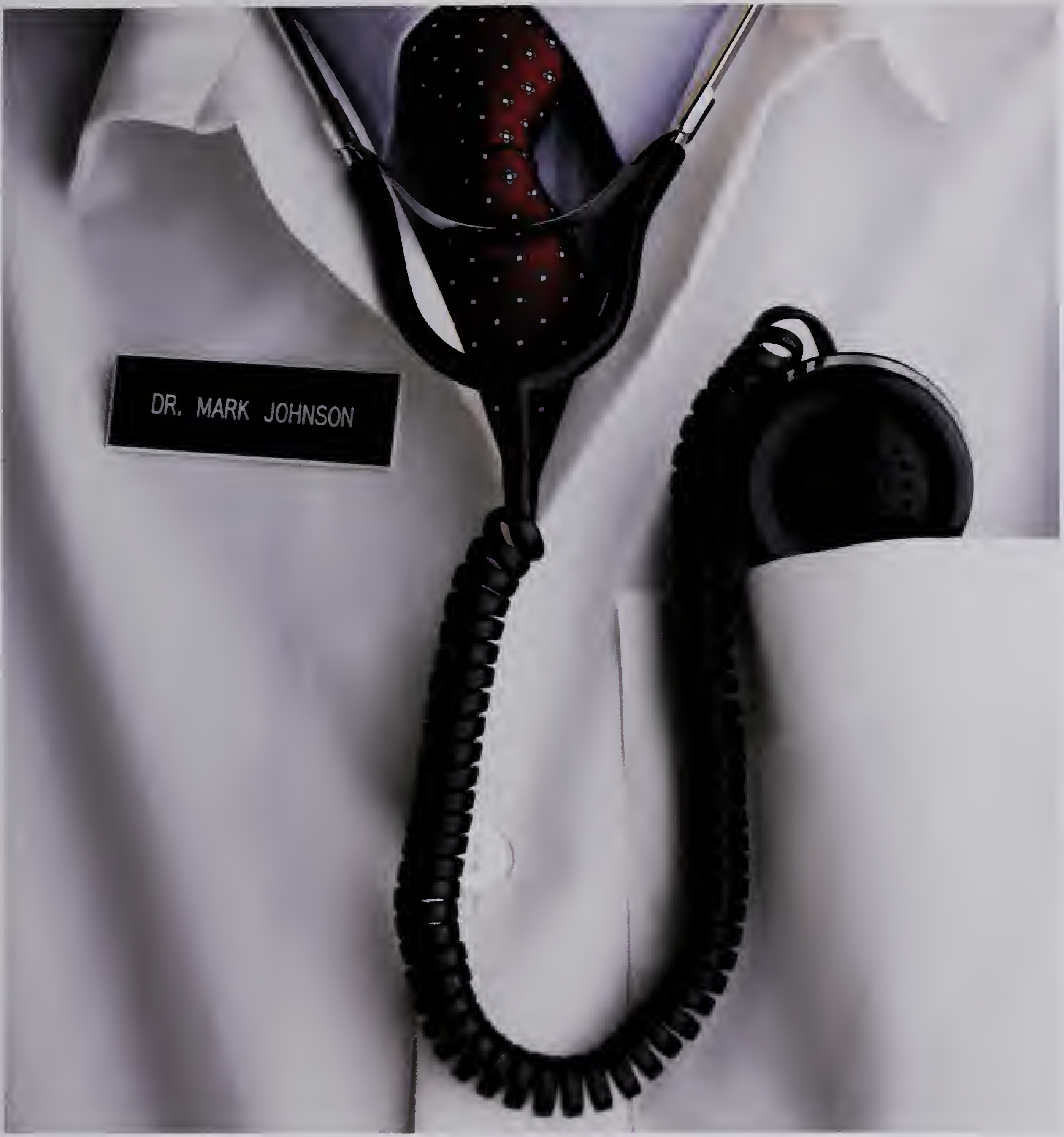

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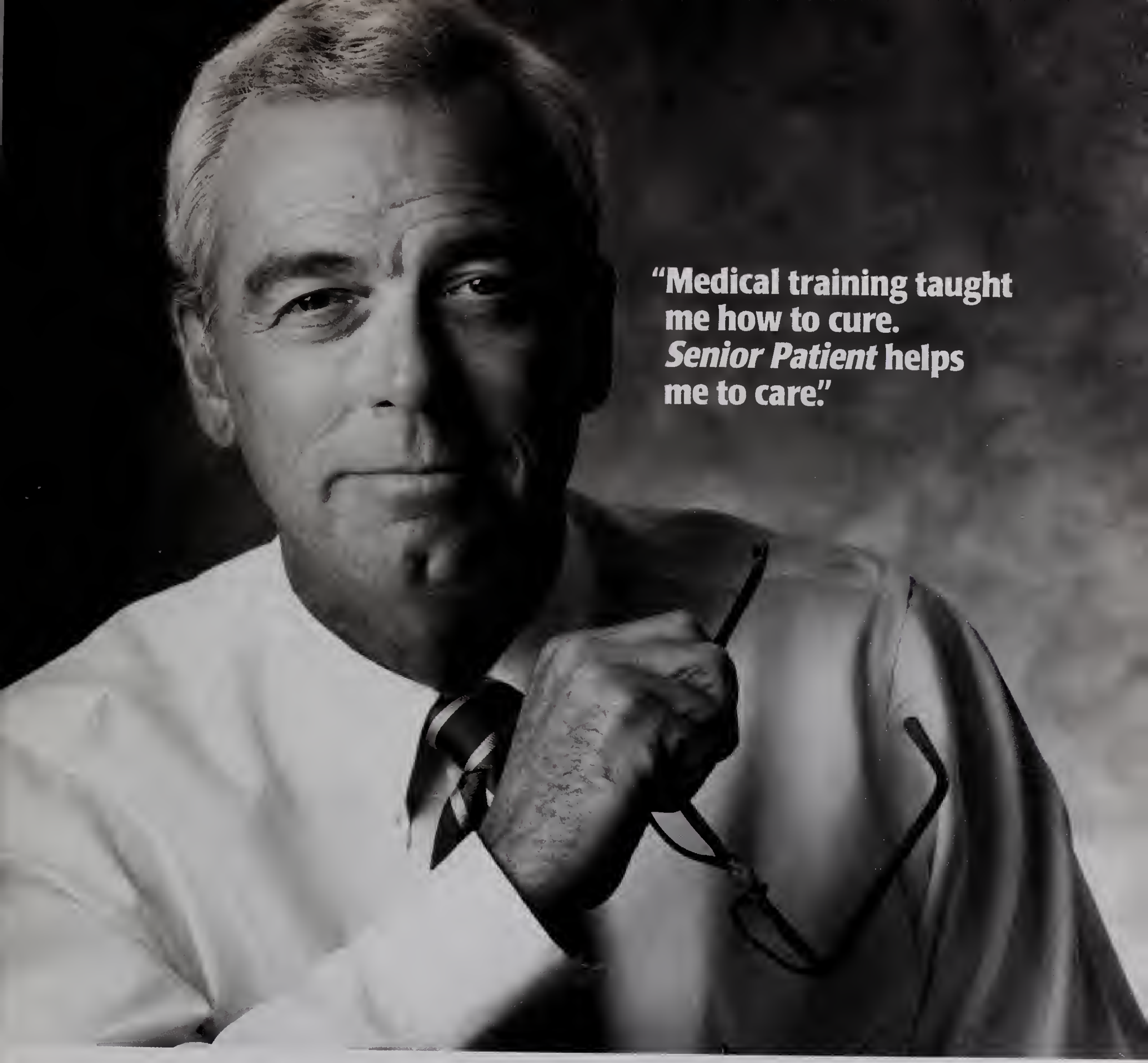

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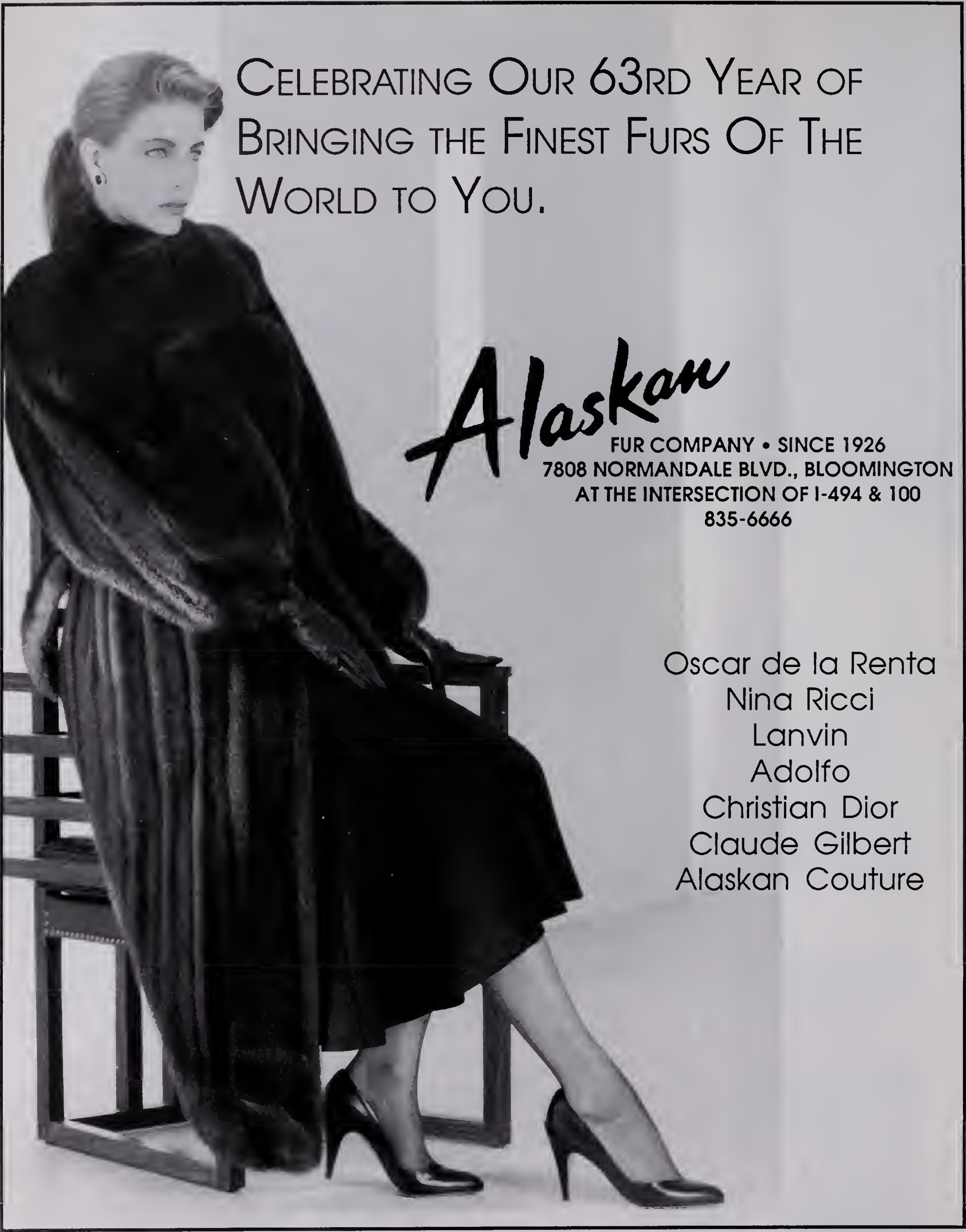

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A JOURNAL OF CLINICAL AND HEALTH AFFAIRS

# MINNESOTA MEDICINE

OCTOBER 1988

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MINNESOTA MEDICINE
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## Cover Illustration

**THOUGH SURGICAL TECHNIQUES** have changed greatly in the past 33 years, the *art* of medicine, as taught by Dr. Claude Hitchcock, remains the same. This month's cover illustration is a tribute to Dr. Hitchcock and the 105 surgeons he trained during his years as Chief of Surgery at Hennepin County Medical Center.

The illustration is a water color by Kathleen Berntson, a freelance artist and illustrator who lives in St. Paul.

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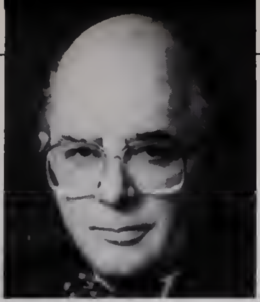


RICHARD L. REECE, M.D.

# Dr. Claude R. Hitchcock and the Hitchcock Surgical Society

**Editor's Note: Since much of this issue of Minnesota Medicine focuses on Claude R. Hitchcock, M.D., Ph.D., and his legacy as chief of surgery at Hennepin County Medical Center, we asked Melvin P. Bubrick, M.D., to act as our guest editor. Dr. Bubrick is the current chief of surgery at the center and is a former student of Dr. Hitchcock's. In addition to writing this month's "Editor's Notebook," Dr. Bubrick helped select and prepare five papers from among the papers presented at the June meeting of the Hitchcock Surgical Society. These papers appear in this month's "Clinical & Health Affairs," starting on page 599.**

Although the old Minneapolis General Hospital had been involved in teaching since the turn of the century, it was not until Claude R. Hitchcock arrived in 1955 that it had a full-time surgeon/educator. During the next 33 years, 105 physicians successfully completed the surgery residency program under his guidance, and hundreds of others rotated through the surgical services as part of their preliminary training for other specialties.

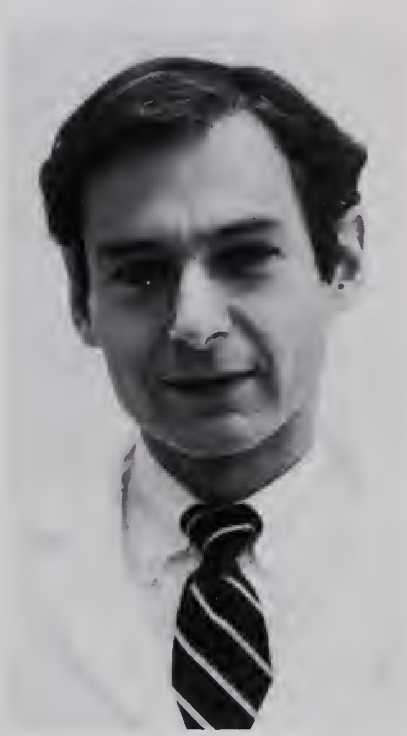
The program flourished through many changes in the hospital, including two changes in the hospital's name, a move to a new facility, and the conversion from a part-time voluntary teaching staff to a full-time academic facility. The surgical residents and staff were enthusiastic participants in the rapid growth and expansion of surgery into such new areas as organ transplantation, cardiac surgery, and critical care medicine. They witnessed less popular developments as well, including managed health care, cost containment, and government intervention into clinical medicine.

While some of Claude Hitchcock's graduates went on to careers in academic surgery, most elected to become clinical surgeons, reflecting in part the mission and traditions of the hospital. About one-third of the graduates went into practice in larger urban areas such as the Twin Cities, about one-third settled in smaller cities, and the remainder went to rural communities, mostly in Minnesota and in the five-state area.

By the later 1960s, many of the former residents had expressed a desire to meet regularly—with the Chief and with each other—to discuss surgery and its advances and to present difficult cases. The Hitchcock Surgical Society was founded in 1969 to meet annually for that purpose. Initially, most of the scientific papers presented took the form of case reports, but in later years the program shifted toward more structured presentations and clinical reviews.

This issue of Minnesota Medicine includes a sampling of five papers from the June, 1988, meeting. Claude Hitchcock's last five graduates joined the society at that meeting, which marked his retirement from clinical surgery. Society members decided to continue to meet annually in the future for scientific exchange and fellowship.

In 1987, the new research facilities for Hennepin County Medical Center faculty were named the Claude R. Hitchcock Laboratories. In 1988, a visiting professorship was funded in the Surgery Department at HCMC in his honor. Other tributes and remembrances will no doubt follow. In the end, however, it will be the skill, the compassion, and the integrity of his 105 graduates that will be the lasting legacy of Dr. Claude R. Hitchcock. ■



MELVIN P. BUBRICK, M.D.

# A Life on the Cutting Edge

**REECE:** *Dr. Hitchcock, you've had a long and distinguished career as a surgeon. You just retired in June as chief of surgery at the Hennepin County Medical Center and for Hennepin Faculty Associates. You are now the new full-time, salaried president of the Minneapolis Medical Research Foundation at the Hennepin County Medical Center. May I start this interview by harking back to 1936 when you were in the school of technology and the school of architecture at the University of Minnesota. What motivated you to switch to medicine?*

**HITCHCOCK:** I guess I was altruistic, as young people commonly are when they are in their early 20s. Medicine in those days was a career that had a lot of glamour. You helped people, and you did something for mankind. That really motivated me to go into medicine.

**REECE:** *Then you went on to have a broad-based liberal arts education in the fields of animal psychology and philosophy?*

**HITCHCOCK:** Yes, that's correct. I went from the Institute of Technology and Architecture over to the Arts College and majored in animal psychology, which in those days was a newly developing field. People were just beginning to study the behavior of animals and begin to apply what they learned to human behavior. It was a fascinating field. I was always pleased that I took the time to have a minor in philosophy, where I had the opportunity to study and debate and think about ethics and religion. My liberal arts background has enriched my life as I've progressed through the years.

**REECE:** *Then, from the undergraduate school at the University of Minnesota, you moved on to the medical school from 1940 to 1944. You were a wartime doctor, a soldier in medical school.*

**HITCHCOCK:** That's right. In uniform.

**REECE:** *Did you wear a uniform to class?*

**HITCHCOCK:** You bet. I wore a private's uniform in khaki. The Navy boys wore their navy blues.

**REECE:** *When you left the University you interned at St. Luke's Hospital in Duluth. Then what happened?*

**HITCHCOCK:** Then I went into the military. After several assignments here in the country, I was sent to Nichols Air Force Base in Manila. Then I was repatriated back to duty on Guam in the Pacific and later back to duty at Scofield Barracks in Hawaii, near

**Hitchcock** *to page 632*

**CLAUDE R. HITCHCOCK, M.D., Ph.D.**

*I found this interview to be a compelling experience. Why? Well, perhaps because it didn't fit Dr. Hitchcock's reputation. His reputation was that of a tough, gruff, direct surgeon whom you either loved or feared, depending on which side of him you stood. He expected you to work hard and to perform. If you did not, you knew your fate.*

*In the interview, which was conducted in Hitchcock's nicely appointed 8th-floor office in the Metropolitan Medical Building, Hitchcock was a model of charm, grace, and patience.*

*Furthermore, his life story fascinated me. His tales of medical adventure had inquiring investigators, inspiring professors, heroic physicians, dying patients, benevolent philanthropists, displaced baboons, foreign travelers, and Claude Hitchcock himself, who had the capacities, skills, and personality to assemble this cast of characters and to teach them to work together to do something that made a difference.*

*This introduction is beginning to sound like a blurb on a dust jacket for a medical bestseller. That tone doesn't happen by chance. This interview has a certain narrative sweep to it, and I believe you'll enjoy reading it.*

# The Role of the Transformational Leader

**REECE:** *Mr. Kreykes, you have a unique background in that you served for 11 years at the Hennepin County Medical Center, a public hospital. Now you are an executive with Health One Corporation and the senior executive officer at the Metropolitan-Mount Sinai Medical Center, a private institution. So as an administrator, you've had your feet in several camps—a public hospital system with an academic mission, a multi-hospital system, and now, the western hub of the new Health One—a large private hospital. First, tell us about your position with Health One and your new role at Metropolitan-Mount Sinai Medical Center.*

**KREYKES:** As executive vice president of Health One, I have the management responsibilities for the acute care division, which includes all the owned and managed hospitals, and nursing homes. That's an easier job than it might seem because of the outstanding administrative leadership that exists throughout the corporation and in the three regions that we have. I have, since January of this year, or since the time of the merger of Metropolitan Medical Center and Mount Sinai, become the senior executive officer of Metropolitan-Mount Sinai. With that I have literally moved my office out of the Health One general offices. I work from my office at Metropolitan-Mount Sinai, where I can provide the senior administrative leadership at this institution. And, I might add, I'm pleased as can be to be back in the environment of Metropolitan-Mount Sinai Medical Center and Hennepin County Medical Center.

*As a hospital administrator, William Kreykes was something of a boy wonder. He was appointed chief administrator of the Hennepin County Medical Center at the tender age of 32. He served there as head for seven years, put in four years as administrator for Vanderbilt University Hospital, and has spent his last seven years as a top executive at the Health One Corporation and its predecessor organization, Health Central.*

*While the years of being a boy wonder have passed, Kreykes' boyish enthusiasm for running and transforming hospitals continues unabated. Kreykes—a lean, lanky, and energetic man who explodes with ideas and gestures—does much of his work at a stand-up desk. His theory is that you waste less time, and you're more alert if you work, think, and act standing up.*

*I interviewed Kreykes in my office, sitting down, but not until he had paced around my book-lined office. As he skimmed the book titles, he talked about his favorite book: "The Transformational Leader," out of the University of Michigan. "Now there," he said, "was a book I had to read." It contained the essence of what he enjoyed most—exercising leadership to transform institutions to a higher plateau. He added that this transformation is achieved by getting everybody to act for goals that reflect the values and motivations—the wants and needs, aspirations and hopes—of leaders and followers. "It's very simple," he concluded. "Once we all agree as to what we should be, that's what I firmly believe we will be."*

WILLIAM KREYKES

**REECE:** *Tell us about your experiences at Hennepin County Medical Center. What position did you hold?*

**KREYKES:** I joined Hennepin County in 1966 as an associate administrator and then had the good fortune to be appointed administrator and CEO of that organization in January of 1970. I stayed at Hennepin County through the completion of the new Hennepin County Medical Center and development of relationships with Metropolitan Medical Center, and left in 1977.

**REECE:** *So you helped engineer the move from the old Hennepin County building to the new hospital?*

**KREYKES:** I sure did. I was there through the move and for the next year to make sure the new facility was working as we hoped it would.

**REECE:** *Thinking back, what do you regard as your major accom-*

*continued*

*plishments at Hennepin County Medical Center?*

**KREYKES:** The new medical center was probably the crowning achievement. At the time it was constructed it was—and it still is—one of the most outstanding teaching-hospital facilities in the country. We also set a stage for a strong and unique alliance between public and private hospitals. Finally, what was most satisfying, was the developing, nurturing, and establishing of strong relationships between the administration of the center and the medical staff of the center. We achieved true involvement of physicians in the operations of that institution, an involvement that still exists today. I'm very proud to have been involved in all those accomplishments.

**REECE:** *So physicians at the Hennepin County Medical Center then and now have a central role in creating its policies and in running the hospital?*

**KREYKES:** Yes. I believe they do. And this is the wave of the future . . . physicians being more involved in all aspects of the hospital operations. In 1973 we created an internal management board at Hennepin County Medical Center. The board of commissioners was, and still serves as, the governing body, but in order to have more inside management input from physicians and others, we built an internal management board that consisted of several chiefs of services and the administrative leadership of the institution. That internal body really helped set the institutional priorities and identify the strategic directions of the institution. It also played the major role in the operations of the medical center. It was a means to meld the interests of the full-time faculty, the physicians, and the institution, and it enabled us to incorporate their needs into the operation. Dan McLaughlin, the current CEO of Hennepin County Medical Center, has, I believe, expanded on the nature of physician/hospital relationships from what I left in 1977.

**REECE:** *While you were there, the full-time faculty grew rapidly, didn't it?*

**It didn't take me too long to realize what I'd left when I left the Twin Cities. I'm delighted to be back.**

**KREYKES:** It grew quite rapidly. I forget the exact numbers, but they went from 30-40 full-time staff in the early 1970s to more than 100 before I left in 1977. Under the current leadership, they have developed a strong physician plan and expanded membership.

**REECE:** *And now I believe the staff numbers 240 or so. Now that you're official at Metropolitan-Mount Sinai Medical Center, you*

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*have, in a sense, come home.*

**KREYKES:** I've come full circle. When I left Hennepin County in 1977, I did not anticipate coming back to this community, let alone this physical environment. I went to Nashville and Vanderbilt University for four years. That was a great institution and a great city, but it didn't take me too long to realize what I'd left when I left the Twin Cities. I longed to get back.

I was fortunate to be able to be hired back by what was then the Health Central Corporation, and I'm delighted to be back. And I'm even more pleased with the merger of Health Central and Health One and to be back into the old neighborhood again, working with Metropolitan-Mount Sinai Medical Center and Hennepin County Medical Center; to be striving to achieve the full potential of the vision of this two institution campus—first developed 10 plus years ago.

**REECE:** *You must have a vision of what the Metropolitan-Mount Sinai complex, working together with Hennepin County, might be. Could you share with us that vision?*

**KREYKES:** When Hennepin and the Metropolitan Medical Center complex were put together in the 1970s, the move was seen then as a unique alliance between the public and private sectors. A significant amount of the medical input at the old General Hospital was from the private medical community. There was a substantial amount of voluntary attending staff at Hennepin. The merger created an opportunity of putting together joint programs, services, and facilities of two major institutions, and it met a community need. Ten years ago it was seen, I think, as a strong public/private alliance. Today I feel even stronger about the potential for the public and private alliance between Metropolitan-Mount Sinai and Hennepin County.

**REECE:** *And what is that potential?*

**KREYKES:** There is strength in the public side of health care delivery, and the county hospital has shown that over the years. Hennepin County Medical Center has very strong programs to meet the public needs. It has a tremendous graduate medical education and research programs and an excellent hospital staff. I believe the Hennepin County Medical Center should always remain a publicly owned facility.

The new Metropolitan-Mount Sinai has gained a lot of strength as a result of the merger. The combining of the best of the former Metropolitan Medical Center and Mount Sinai Hospital and the opportunity

**A large population lives and works downtown. These people will need a wider variety of health services, educational programs, and screening clinics.**

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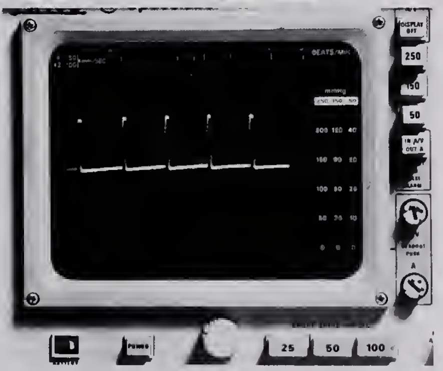

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to achieve positive changes in the nature of the medical center's operation as a direct result of the merger has been evident already.

The whole downtown complex, which is the complex of Hennepin and the former Metropolitan Medical Center, is very large. There is a significant amount of shared services and support services that exist between Metropolitan-Mount Sinai and Hennepin County Medical Center, though we haven't really reached the true fruition of what should be shared. Several services or departments were deliberately kept separate in the 70s because of the economics of health care at that time. Now, economics and today's environment provide new incentives to change.

**REECE:** *How large is the complex? Just give us an idea of the scope of the budgets and the physical plant of these two institutions.*

**KREYKES:** The combined budgets of Metropolitan-Mount Sinai and Hennepin County Medical Center approach $300 million a year. In terms of total occupied beds or the average number of patients that are in the combined operations, on the average day there are between 600 and 650 inpatients in these hospitals. The outpatient activities of both hospitals are also very large and growing rapidly. It is a substantial and significant operation.

**REECE:** *What about the size of Metropolitan-Mount Sinai complex together vis a vis other institutions in the Twin Cities?*

**KREYKES:** On the average day, Metropolitan-Mount Sinai has an inpatient census of 300 plus patients. I believe this is larger than most other hospitals in the west metro area with the exception of Abbott Northwestern and the University of Minnesota. If you consider the combined census of Metropolitan-Mount Sinai and Hennepin County Medical Center, we're clearly the largest game in town.

**REECE:** *How does one go about tapping the synergistic potential of a public and private institution?*

**KREYKES:** First, you need to develop a shared vision between the constituencies of Metropolitan-Mount Sinai and Hennepin County Medical Center. Once we all agree as to what we should be, then I firmly believe that is what we shall be. When Hennepin and Metropolitan Medical Center were first put together, there were about 17 or 18 shared services or programs. There were a number of services that were kept apart at that time because the Medicare cost-reimbursement system created the financial fiscal incentives to keep them separate. Now with the majority of our patient base using fixed payments, there are incentives to more fully integrate many of these services.

**REECE:** *Could you describe those "operating advantages" for me?*

**KREYKES:** First, major cost savings. Take laboratories, radiology, and pharmacy as examples. If we can find the means to operate these as more of an integrated system than exists at the present, we will have substantial cost-savings opportunities. Our goal, however, should not be to just save costs. The whole medical complex of Metropolitan-Mount Sinai and Hennepin has tremendous opportunities for cost reduction and thus, reinvesting these dollars back into program development to further enhance educational needs; to better meet our physicians' needs; to expand our programs, services, and capabilities; and to be able to provide more services more efficiently and effectively to a broader population.

**REECE:** *It seems to me you also have the opportunity of defining your hospitals as a major downtown teaching complex, then perhaps primary physicians, of whom Hennepin County trains as many as half the practicing physicians in the state of Minnesota, will stay at the combined complex to serve as staff physicians.*

**KREYKES:** I think that's true. We are the two institutions closest to downtown, and I think greater opportunities exist to serve the health care needs of the downtown community. When this new complex was built and opened in 1976, I recall several people who snickered about our putting a skyway system in the Hennepin County Medical Center because, at the time, the nearest skyway was eight to 10 blocks away. The closest skyway now is about two blocks away, and I believe that soon that skyway system will connect the Metropolitan-Mount Sinai and Hennepin County Medical Center complex with downtown Minneapolis, and you will be able to walk from anywhere downtown into this medical complex without going outside.

**REECE:** *So downtown residents or workers could visit the hospital on foot?*

**KREYKES:** Absolutely; a large population lives and works downtown. These people will need a wider variety of health services, educational programs, and screening clinics. Patients and physicians could more effectively utilize the strengths of this modern medical complex.

**REECE:** *What are the current strengths of the two institutions? Are your strong services now run by people who cross over from the public and private sector?*

**KREYKES:** Certainly we have strong services, served by physicians who work at both institutions. The Minnesota Kidney Institute is a joint venture operation with a number of physicians in our two institutions as participants. The

**The new strategic direction of Metropolitan-Mount Sinai speaks very clearly about our plans to be positioned as the major private teaching hospital in this communtiy, and that is a strategic direction that we expect to achieve.**

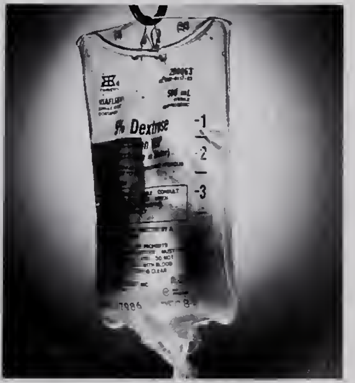
leader, Dr. Morrie Davidman, and other nephrologists, clearly have their feet in both camps. We have outstanding orthopedic services at both the Metropolitan and Hennepin complexes. Many orthopedists are very active in both institutions. I'm thinking of Dr. Gustilo and his colleagues. Then there is the Phillips Eye Institute. Dr. Irv Shapiro is active in academia as well as private practice medicine and provides much of the medical leadership as well. The Knapp Rehabilitation Center at Metropolitan-Mount Sinai is a well-kept secret. It's a strong and substantial rehabilitation center. Dr. Fluth serves as the common chief of physiatry for both Metropolitan-Mount Sinai and Hennepin. These are but a few of the strong programs that exist today.

So your question is right on target. Much of the medical leadership in the strong developing programs comes from active practitioners in both institutions. There are many programs in both institutions that are functioning in a collaborative manner.

**REECE:** *One of the image problems that you have is that most practicing physicians don't refer to Hennepin County Medical Center, and most private patients don't come there because they think of it as a "county hospital." Would it be appropriate for the Hennepin County Medical Center to have a private pavilion at Metropolitan-Mount Sinai? Have you thought about that?*

**I really do believe we can create win/win scenarios for both the public teaching hospital and the new Metropolitan-Mount Sinai as the major private teaching hospital.**

**KREYKES:** We thought about it, not necessarily in the context of Hennepin having a private pavilion, but we thought about it from the standpoint of a major and meaningful integration of the graduate medical education programs of Hennepin County Medical Center into Metropolitan-Mount Sinai. The new strategic direction of Metropolitan-Mount Sinai speaks very clearly about our plans to be positioned as the major private teaching hospital in this community, and that is a strategic direction that we expect to achieve. There are tremendous opportunities to work with our Hennepin County Medical Center partners to expand, enhance, and build on the educational programs that Hennepin County has carried out so well for so many years by more fully integrating with our private hospital. We can do this by taking advantage of our downtown proximity, our close physical integration, and the 30 years of Mount Sinai experience in GME, particularly its 12-year history in the Hennepin County Medical Center integrated residencies in internal medicine. Expansion of the educational experiences with the public and private



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sector will better assure the financial support of these educational programs, enhance clinical experiences for physicians in training, and help build the medical staffs of the next decade for these two medical centers.

REECE: *Some might observe that a medical education in a strictly public institution is not complete without exposure to private patients. The private experience might be beneficial to Hennepin residents also.*

KREYKES: We would agree. Following discussions with Hennepin County Medical Center, we believe there are tangible benefits from the private hospital settings. We think at Metropolitan-Mount Sinai that it would be beneficial. Looking back at my years at Hennepin County Medical Center, I fully appreciate and respect the significance of the teaching programs. The last thing that I'd ever want to do is anything that would destroy their integrity and capability. It's been our experience with the internal medicine residency at the former Mount Sinai that the medicine residents really did just as you said. They liked and benefitted from the experience in both the public teaching hospital and in the private hospital. There are differences and similarities. We think we can offer the best of both worlds to future residents. Graduate medical education is getting more competitive. We can provide exposure and training opportunities for physicians that are second to none in this country. This public/private alliance integration complex, we believe, can help achieve that.

REECE: *Two big factors driving the medical market are the aging population and technology. To become a "magnet" referral center, you have to have a critical mass of technology to serve aging patients. Will this combination help you finance and put into place these major new technologies?*

KREYKES: I think so. When you look at the critical mass of human and technological resources represented in Metropolitan-Mount Sinai and Hennepin; at what we are and what we can be; at how we can possibly change the operations and reduce costs by eliminating some unnecessary duplication; and how we could reinvest those dollars back into new technology, then the result would be better education, better research, better patient care. I really do believe we can create win/win scenarios for both the public teaching hospital and the new Metropolitan-Mount Sinai as the major private teaching hospital. ■

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*Hitchcock*

# A Legacy of Surgeons

*Maggi Aitkens*

> "I feel the most important thing I've done has been to teach students—particularly the surgical residents. To teach people to do the kind of job that good surgeons do is just about the highest calling there is."
>
> Claude R. Hitchcock

It's early morning. The phone rings, and Dr. Claude Hitchcock, recently retired Chief of Surgery of Hennepin County Medical Center and current President of the Minneapolis Medical Research Foundation, answers it energetically. You'd never know from his tone of voice that he just returned from a medical emergency.

"Hello. It's nice to hear from you," he says warmly to the caller. He speaks informally for a few minutes, although it's obvious that the call is business—perhaps a patient or one of the many surgical residents he trained.

Suddenly, he's precise, definite, reassuring.

"Ten-thirty is perfect," he says. "No problem. I'll be there. We'll take care of that. It will be good to see you."

He hangs up the phone and says, "There, that takes care of that. Now . . . " But he doesn't ponder the "what next" in his busy day for long. He just moves right into it with the same enthusiasm he devoted to the last task.

Dr. Claude Hitchcock, the man who pioneered kidney transplant surgery and dialysis in this area, developed the Minneapolis Medical Research Foundation in 1957, and created research facilities at General Hospital (now Hennepin County Medical Center), says that much of this work doesn't compare to one of his other accomplishments.

"In spite of all my other work," he says, "I feel the most important thing I've done has been to teach students—particularly the surgical residents. To teach people to do the kind of job that good surgeons do is just about the highest calling there is. Nothing could be more worthwhile."

The numbers alone support Hitchcock's passion for teaching. Throughout his career, he has trained over 100 surgical residents and thousands of medical students

KATHLEEN BERNTSON

and interns. Keeping in mind that it takes six years to train a resident, and that each handles as many as 2,000 cases, Hitchcock has also been responsible for about 200,000 operations. But Hitchcock did more than guide the residents' hands in teaching them the skills of surgery. According to several Hitchcock-trained surgeons, Hitchcock also guided them personally through their training and taught them the art of medicine.

Like the books Hitchcock loves to read, the story of his teaching career begins with history—Hitchcock's history.

It was 1947. The Second World War had just ended, and the young Hitchcock had just returned home from the Pacific where he served in the Army as a doctor. Still in uniform, he went to see Dr. Owen Wangensteen, a professor for whom he had once done some research as a medical student at the University of Minnesota.

"Dr. Wangensteen, who was then professor and chief at the University, had always told me if I ever wanted to be a surgeon, to come see him," Hitchcock says. "So I did one Friday afternoon just after returning home. When I was ushered into his office, he looked up and said, 'Why, hi Hitchcock, how are you?'

"The man had a phenomenal memory. I said, 'Gosh, do you remember me, Dr. Wangensteen?' He said, 'Of course I do. What can I do for you?'

"I said, 'Well, you told me that if I ever wanted to try and be a surgeon to come see you. And, well, I'd like to try if it's O.K. with you.'

" He said, 'Fine. When do you want to start?' and I said, 'Well, maybe, would it be O.K. if I started in about a month? Then I can travel a little bit and see the country?'

"Well, he just looked at me kind of coldly and said, 'How about Monday morning?'

"So Monday morning I started."

In a matter of months and with a little help from Wangensteen, Hitchcock's career was launched. He already had two grants from Washington and a laboratory of mice set up for cancer research.

"But one thing about Dr. Wangensteen," Hitchcock says, "he didn't just let you try. He pushed. And away you went. In 1952, before I even finished my residency, he sat down right next to me during Saturday conference and said, 'Hitch, Monday morning you can go over and start running the Cancer Detection Research Center.' I said, 'I don't want to. I'm only a resident. I don't know anything about it.' He said, 'That doesn't matter. Just go run it. You'll learn.'

"So, I went over and ran it—for three and a half years."

But the story about Wangensteen's influence on Hitchcock's career didn't end there. In 1955, Wangensteen came to Hitchcock and asked him to become chief of surgery at General Hospital.

"I refused two different times," Hitchcock says. "I felt I was totally academic. I had all my laboratories and cancer studies underway, and I didn't want to leave that. I loved teaching and directing the residents, interns, and students. But the third time he came around, he said to me in a pleading voice, 'Please. Will you do it just for me?'

"Well, what could I say? I became chief of surgery at General Hospital."

After a year at General Hospital, Hitchcock admits you couldn't have pulled him away. Part of the reason was his new-found enthusiasm for clinical work and working with the patients. But equally important was that Hitchcock soon found he didn't have to leave his other passion for academia behind

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**"Surgery is not just operating on this one part of the body. It's working with the whole person."**

at all. He just had to develop the academic programs and find a way to launch them.

"It was really very different than the University in those days," Hitchcock says. "There was no research going on at the General. But that's where I got started. I began to activate a fledgling thing called the General Hospital Research Foundation, which had already been set up, but really wasn't doing much. I began to raise money. With it, I built laboratories and ultimately the hyperbaric chambers. That's how I was able to do the work in kidney research. Later the name was changed to the Minneapolis Medical Research Foundation, Inc."

Wangensteen gave Hitchcock more than surgical skills and a challenging career path to follow. "I learned a way of life from him," Hitchcock says. "I learned about true science. Wangensteen never wanted to ponder a problem or debate it. He always took the active approach by saying, 'let's get to the laboratory, set up some experimental conditions, and prove it. Show it. Demonstrate it.' Now that's real science.

"I also learned the way to fuse my personal life and my professional life, which gave me balance. But most of all, I learned honesty and integrity. The technical surgical skills are really just a small part of the whole thing. It's basically a question of integrity. You have to want to not only help people, but to follow through in the entire process.

"You see, surgery is not just operating on this one little part of the body. It's working with the whole person. I learned from Dr. Wangensteen that you have to be just as concerned about a patient's psyche and emotional well being, for example, while you're working with them. Patients are entities, all in their unique environments. You need to work with that whole picture."

Confident, yet modest, Hitchcock explains the essence of his mentor and teacher. "Wangensteen was like the great maestro who stands before the big symphony orchestra and gets people to play better than they ever really could play. Let's face it. Toscanini, the great maestro, could do that. He inspired them. Well, Wangensteen inspired all of his people. He made you believe in yourself."

Does history repeat itself? Many Hitchcock-trained surgeons believe that it does, or at least that it's passed on.

"Dr. Hitchcock is to me what Dr. Wangensteen was to him," says Dr. Gregory Shultz, a Hitchcock-trained surgeon practicing in Sioux Falls, South Dakota. "He believed in me so much that I was able to do things I don't think I would have been able to do otherwise. He gave me the self-confidence to tackle very challenging problems, which is an essential part in the training of a surgeon—to learn how to handle difficult problems, know that you can do it, and then do it in a caring way."

Dr. Margit Bretzke, the only woman trained under Hitchcock and a practicing surgeon in Minneapolis, agrees. "Hitchcock expected a lot of everybody, and everybody rose to those expectations. He taught us that patient care involves taking care of the total patient and, as a surgeon, you have to do more than just deal with their surgical problems. He didn't accept anything less than that."

Nor did Hitchcock accept anything less in himself while working with his residents. He believed in looking at the total person—the whole picture. "When medical students came to him," Shultz says, "they knew he cared about them, as did the residents for Hitchcock. Those qualities are not found at every training institution. There was a spark, a fire of enthusiasm that what you do is important, and what you feel and think is important, too.

"In addition to the enthusiastic and energetic zeal he had for teaching—I mean this man lived for that—he cared not only about you, but also your family and how you were doing personally. If you were having personal problems, he wanted to sit down in his office and talk to you about it. If there was anything he could do, like give you a little time off, he would. He'd create a situation where you'd have time to spend with your family, for example, if that was the problem. He is such a caring and respectful man, it was contagious. Those qualities carried over to his residents and their practices. He taught us the true art of medicine."

**"Wangensteen never wanted to ponder a problem or debate. He always took the active approach by saying, 'let's get to the laboratory, set up some experimental conditions, and prove it. Show it. Demonstrate it.' Now that's real science."**

The true art of medicine, as taught by Hitchcock, included the integrity Hitchcock had learned from Wangensteen along with an overabundance of caring and respect for patients.

"Dr. Hitchcock has an incredible amount of personal integrity and a strong sense of right and wrong," says Dr. Melvin P. Bubrick, now chief of surgery at Hennepin County Medical Center. "He felt a strong personal commitment to treat all patients, disadvantaged or not, with great dignity and respect. Those qualities rubbed off on everybody in the program. That's something he left behind and a tradition we want to maintain."

And, like his teacher, when Dr. Hitchcock decided to do something, he would do it. No fussing around.

"Even if it seemed outlandish," Bubrick says. "He was so innovative that when he developed an interest in hyperbaric medicine, he didn't just develop a casual interest, he went out and raised money to build a huge hyperbaric chamber across the street. When he was interested in doing research on baboons, he didn't just try to find a baboon to do research on. He took a group to Africa and started an operating facility there and then built special cages to house as many as 60 baboons here for continued research. When he became interested in kidney transplantation, he learned how it was being done and just started doing it.

"Teaching rounds with him were never passive either. If he looked at a patient and the patient didn't look quite right to him, he would demand to know exactly what the patient's status was. He would personally examine the patient, review the records, and often make a decision during the rounds that showed exceptionally good judgment."

When Hitchcock retired in June of this year, members of the Hitchcock Surgical Society, a group formed by Hitchcock-trained surgeons more than 25 years ago, didn't skimp when it came to showing their affection for their chief. With a little help from Hitchcock's daughter, Claudia, they bought him the perfect gift: a Ford conversion van for trips to his favorite fishing spots in Ontario, Canada.

"The gratitude that individuals have for him is really a reflection of the respect they have for him as a person," Bubrick says. "Chiefs are usually respected as teachers and as mentors. But very few are beloved as individuals, as men, as human beings, the way he is. I think that's a reflection of the type of person he is as well as the type of teacher and mentor he has been."

"Hitchcock is unique," Shultz says. "Some chief surgeons travel the country to make every meeting and impress their colleagues on a weekly basis. They're so busy doing other things, they don't have much time to spend with their residents. Dr. Hitchcock, on the other hand, was able to maintain a strong national reputation, but his priority was training surgical residents."

It's easy to understand why Hitchcock says his greatest accomplishment has been training surgical residents. In that training, he has managed to pass the art of medicine, as learned in part from his own teacher and mentor, Dr. Owen Wangensteen, on to a large number of surgeons. It is those surgeons who will not only shape the nature of the medical world for the next 60 years, but also, one would hope, pass that art on as mentors to their students and peers. Hitchcock has enhanced the world by ensuring that integrity, caring, understanding, respect, dignity, and a focus on the larger picture are a part of it.

Although his work in teaching surgical residents is now behind him, the everlasting "academic" in him still shines through. The "what next" in Hitchcock's career has already begun—to secure an endowment for the Minneapolis Medical Research Foundation so the research activities he initiated in 1957 will also live on. ■

**During the early years of Dr. Hitchcock's transplant program, he used baboons for research in organ preservation and kidney transplantation.**

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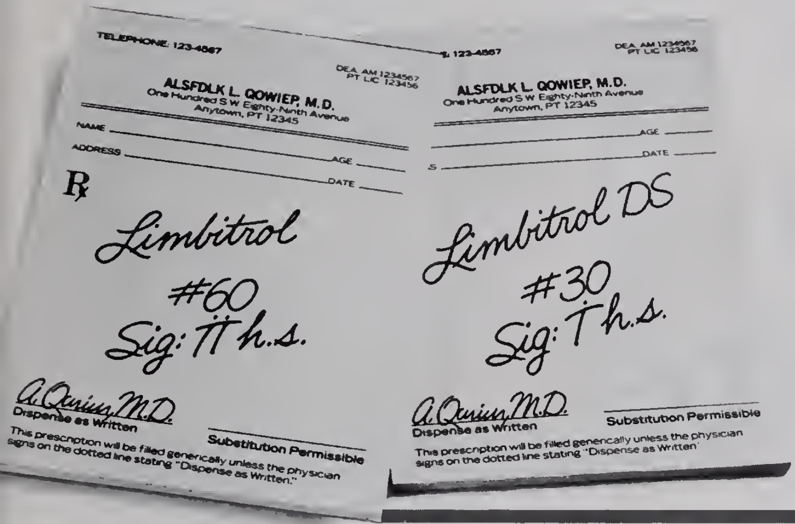

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**Warnings:** Use with caution in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur when used with anticholinergics. Closely supervise cardiovascular patients. Arrhythmias, sinus tachycardia, prolongation of conduction time, myocardial infarction and stroke reported with tricyclic antidepressants, especially in high doses. Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (*e.g.,* operating machinery, driving).

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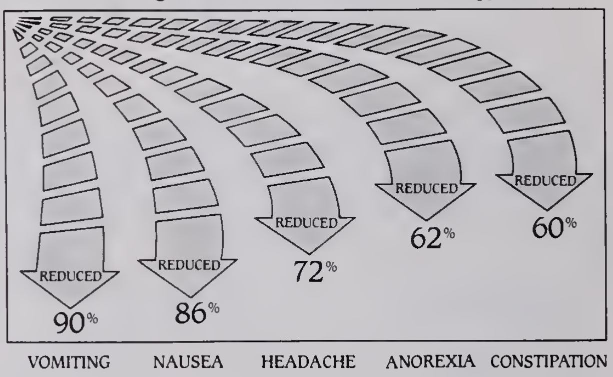

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# Photodynamic Therapy for Tumors of the Gastrointestinal Tract

*Richard T. Zera, M.S., M.D.*

**Photodynamic therapy (PDT) is the treatment of malignant tumors using light-sensitive dyes that, when photoactivated in the presence of oxygen, yield toxic products leading to tumor necrosis. Although the technique dates back to the turn of the century, the current resurgence of PDT into clinical usefulness has been led by Dr. T. S. Dougherty of Roswell Park Memorial Institute (RPMI) and Dr. Y. Hayata of the Tokyo Medical College. PDT has been used for a variety of malignancies accessible to a light source—either directly, such as primary[1] and metastic[2] skin lesions,[3,4] or by bronchoscopy,[5,6] or esophagogastroscopy.[7,8,9] This review will focus on the experience of treating tumors of the gastrointestinal (GI) tract and the technique used at RPMI.**

There are two essential components of PDT. The first is the photosensitive agent; the second, the light and its delivery system. The most commonly used drug for PDT currently is dihematoporphyrin ether (DHE, Photofrin II®, Photofrin Medical, Cheektowaga, New York), which was found by Dougherty, et al.[10] to be the active component of the mixture hematoporphyrin derivative (Hpd, Photofrin). Hpd was first described by Lipson[11] in 1960 in a master's thesis, while working under Dr. Sam Schwartz, now of the Minneapolis Medical Research Foundation. DHE has the advantage of low systemic toxicity, the principal side effect being sun sensitivity for 3 to 4 weeks after injection. It also is selectively retained within a variety of malignant tumors.[2] At RPMI, the protocol for DHE use in GI tract tumors involves initial endoscopic evaluation and biopsy documentation of malignancy. DHE is then given intravenously at 2mg/kg body weight, and, 48 to 72 hours later, activated using a dye laser (Kiton Red) pumped by an Argon laser. This light system is also commonly used by others with the wavelength of the output being 630nm. This has good tissue penetrating ability and still activates the DHE. More recently, a gold-vapor laser has been used.[12]

The light delivery system is a critical component of PDT. Quartz fibers are used, and initial methods relied on "forward-surface illumination," or interstitial fibers were also employed. In both, the light exits the end of the fiber only, with the obvious technical disadvantages of lack of uniformity in light delivery and limited ability to treat portions of tumors were direct end-on visualization is difficult. In 1984, Balchum[13] described the use of a cylindrical diffusing fiber that allows the light to exit in a 360-degree arc at right angles to the long axis of the fiber. This has markedly improved the ability to treat intraluminal tumors, especially in the respiratory tree and the esophagus. A spherical diffusing fiber has also been developed for use in the bladder.[4]

Still to be established are appropriate guidelines for light doses. These are reported in milliwatts per centimeter of diffusing fiber times the length the time given (Joules/cm$^2$). Effective doses depend on tumor size and thickness, but similar tumors have been reported with treatments varying greatly (30-900 J/cm$^2$). This variability, coupled with the technical limitations of the light delivery systems, has played a large part in limiting the success of PDT.

## Esophageal Cancer

In the GI tract, the experience of using PDT in advanced esophageal disease is summarized in Table 1. The difficulty in evaluating PDT as a palliative treatment for esophageal cancer is apparent in the nonstandardized manner in which responses are reported, the lack of complete case information, and the variety of treatments administered pre- and post-PDT. Taking the suggestion of Nava[8], it seems reasonable to speak of local control of

**TABLE 1**

Advanced esophageal malignancies treated with PDT

| Reference | Patients | LC | PC | NR | Longest Follow-up(mos.) |
|---|---|---|---|---|---|
| (15) | 16 | 2 | 13 | 1 | 14 |
| ( 7) | 12 | — | 12 | — | 18 |
| ( 8) | 11 | 10 | 1 | — | 19 |
| (14) | 5 | — | 5 | — | ? |
| Totals | 44 | 12 | 31 | 1 | |

Abbreviations:
LC - complete local control (no evidence of disease on endoscopy).
PC - partial control (radiologic and/or endoscopic improvement in lumen diameter or decrease in tumor size of at least 20 percent).
NR - no significant response.

**TABLE 2**
"Early" esophageal malignancies treated with PDT

| Reference | Patients | CR | PR | NR | Longest Follow-up(mos.) |
|---|---|---|---|---|---|
| ( 9) | 13 | 13* | — | — | 32 |
| ( 7) | 6 | 4 | 1 | 1† | 41 |
| (17) | 6 | 5* | — | 1† | 47 |
| (14) | 4 | 2 | 2 | — | 24 |
| (16) | 2 | 1 | 1 | — | 14 |
| ( 8) | 1 | 1 | — | — | 12 |
| Totals | 32 | 26 | 4 | 2 | |

Abbreviations:
CR - complete response (no evidence of disease).
PR - partial responses (microscopic residual disease found on biopsy).
NR - no response.
* Includes one patient who had a second focus of carcinoma apart from PDT-treated area. Both were treated surgically and found only on sectioning.
† Laser malfunction with improper wavelength.

endoscopically verifiable tumor as the goal of PDT in the advanced disease setting. Using this guideline, at least 12 of the 44 patients reported[7,8,14,15] (27 percent) have had local control. At RPMI, 10 patients had local control, of which six survived longer than one month after PDT. One of these six has had a local recurrence (at 14 months); the others have continued with local control with followup as long as 19 months in one case.

The depth of effective light penetration appears to be 1-1.5 cm, and, while nearly all (95 percent) patients had at least partial tumor necrosis, bulky disease may not be amenable to single treatments with this modality. McCaughan, et al.[15] have used the Nd-YAG laser to debulk some patients and to establish a lumen prior to treating residual disease with PDT. Of some concern is the possibility of tracheosophageal fistualae developing with the use of PDT alone or PDT and Nd-YAG vaporization. We had one case develop, presumably as a result of tumor necrosis, rather than continued tumor growth, and Hayata, et al.[7] also reported two cases. Further evaluation of this combination therapy does appear warranted based on promising palliative results obtained to date.

"Early" or "superficial" esophageal cancer is defined as mucosal or submucosal involvement only. Table 2 presents the collection of cases reported to date, including one patient treated at RPMI with an adenocarcinoma arising in a Barrett's lined esophagus. A complete response (CR) was obtained in this case, including regression of the Barrett's mucosa. The largest series is that of Tian, et al.[9], who used PDT to treat early squamous cell cancers found initially through mass screening in Linxian, China. The one patient in this series who had an apparent failure of PDT (positive follow-up cytology without endoscopically visible disease) was found, upon sectioning of the surgical esophagectomy specimen, to have a microscopic focus of cancer away from the previously treated field. The long-term follow-up on those patients having CR (81 percent) is encouraging, with no recurrences reported in periods from 12 to 47 months.

## Gastric Cancer

The use of PDT in treating gastric cancer is a more technically complicated exercise owing to gastric folds, peristalsis, and the shape of the stomach itself, all of which limit access to the tumor. Table 3 shows the results of PDT in treating advanced carcinomas of the stomach. Responses were partial, at best, in this setting, and the short period during which the responses persisted suggest a very limited role, even for palliative goals, in treating advanced gastric cancer.

**TABLE 3**
Treatment of advanced gastric carcinomas with PDT

| Reference | Patients | LC | PC | NR | Longest Follow-up(mos.) |
|---|---|---|---|---|---|
| ( 7) | 10 | — | 10 | — | 5 |
| (19) | 10 | 1 | 8 | 1 | (?) |
| (18) | 8 | — | 8 | — | (?) |
| (16) | 1 | — | 1 | — | 3 |
| Totals | 29 | 1 | 27 | 1 | |

Abbreviations:
LC - complete local control (no evidence of disease endoscopically).
PC - partial control (20 percent or more decrease in tumor size endoscopically).
NR - no response (less than 20 percent tumor regression).

In selected cases, PDT for "early" gastric cancer is a more reasonable option, based on the results summarized in Table 4. The Japanese classify "early" cancers as Type 0-carcinoma in situ, Type I-polypoid lesions, and Type II-ulcerative and circumscribed.[5] Of the 46 cases reported, all were Type II, and 24 were treated non-operatively. Twenty-one of these (87 percent) had CRs, i.e., no verifiable tumor, with follow-up of as long as 43 months. The partial responses in this group were in patients with tumors greater than four centimeters in size. In the 22 operative cases, selection was biased to those who did not respond completely, with only nine CRs in this group. Two patients who grossly might have been considered CRs were found, upon sectioning of the resected specimen, to have microscopic residual tumors in the area of PDT. A third had a second carcinoma found apart from the area treated. Those patients who have small tumors, who, due to overall poor condition, are unable to, or who are unwilling to undergo an operation, would be suitable candidates for PDT.

## Colorectal Carcinomas

The use of PDT for colorectal cancer has been limited, with the largest reported experience from RPMI[21] (14 patients), and one other report of three patients.[20] Six patients from RPMI and the additional three patients were treated for unresectable disease. Four of these had no objective response to therapy, although two experienced good pain relief. Three patients had responses of sufficient magnitude to relieve intermittant partial obstructional, though they continued to have gross disease. One

**TABLE 4**
Treatment of "early" gastric carcinomas with PDT

| Reference | Patients | CR | PR | NR | Longest Follow-up(mos.) |
|---|---|---|---|---|---|
| ( 7) | 16 | 9 | 7 | — | 43 |
| (17) | 13 | 10 | 3 | — | 28 |
| (18) | 10 | 5 | 4 | 1 | 7 |
| (16) | 6 | 5 | 1 | — | 6 |
| (20) | 1 | 1 | — | — | 9 |
| Totals | 46 | 30 | 15 | 1 | |

Abbreviations:
CR - complete response (no evidence of disease endoscopically or in resected specimen).
PR - partial response (20-99 percent decrease in tumor size endoscopically or in resected specimen).
NR - no response (less than 20 percent decrease in tumor size endoscopically or in resected specimen).

had stable disease with good pain relief at 16 months post-PDT, and one had an apparent CR with negative biopsy, but continued pelvic pain. This patient was lost to follow-up at nine months post-PDT. Five patients were treated for incompletely excised recurrent rectal adenocarcinoma. Two of five had good pain relief, and one had negative biopsies post-PDT.

PDT was used as an adjuvant treatment in two patients who had resectable recurrent squamous cell carcinomas of the anal canal. One patient is alive, with no evidence of disease at 14 months, and the second died of unrelated causes eight months post-PDT, with no evidence of disease. PDT for preventing pelvic recurrences for rectal cancer would be an interesting use of this technique, but has not yet been investigated.

## Toxicity of PDT

Complications of PDT have been uncommon. Sun sensitivity persists for three to four weeks after DHE injection, but can be managed by sun screens, appropriate clothing, hats, and sun avoidance. Sunburn is not unusual in patients who go out during the daylight hours. Patients with superficial tumors of the esophagus and stomach routinely experience substernal and epigastric pain, respectively, after PDT, presumably due to nerosis and ulceration at the tumor site. This can be managed by antacids, H-2 blockers, sucralfate, and analgesics, but may require parenteral narcotics for relief. We have also seen development of transient pleural effusions, pericarditis, and non-specific EKG changes. PDT can be used repeatedly and can also be used in previously irradiated fields without additional toxicity.

## Conclusions

To summarize, PDT in treating GI tract tumors can be of great value in palliation, in esophageal and colorectal cancer, as primary modality therapy in superficial tumors of the esophagus and stomach, and perhaps, after more investigation, as an adjuvant therapy in rectal cancer. The regression of dysplastic mucosa, seen in one case we treated, also points to another possible use of this therapy. The remaining limitations to more widespread use of PDT are: finding suitable patients; further improvements in the technical aspects of light delivery systems; and more standardized light dosages. Despite these limitations, PDT should become another option to consider in treating patients with GI tract cancer.

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*Richard Zera is completing a surgical oncology fellowship at Roswell Memorial Institute in Buffalo, New York, and will join Hennepin Faculty Associates in January, 1989.*

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# Ischemic Colitis

*Melvin P. Bubrick, M.D., and Nancy Guttormson, M.D.*

**Ischemic colitis is a spectrum of diseases that can be associated with a number of systemic conditions including renal failure, arteriosclerotic heart and vascular disease, and hematologic, vasculitic, or connective tissue diseases. It may appear as a mild transient ischemic colitis, as a late ischemic stricture, or as as an advanced and lethal gangrenous colitis. The disease may involve any part of the colon and rectum. Ischemic colitis should always be viewed as a potentially serious disease with a mortality rate of 50 percent or more in hospitalized patients. Shock at the time of presentation and recent aortic surgery are especially bad prognostic factors. Surgical treatment should consist of resection of the involved segment of the colon without anastomosis.**

**Ischemic colitis has only recently been described as a clinical syndrome. In the 1950s, colonic infarction was of interest primarily as an event that could occasionally complicate surgery on the colon or aorta. Although Boley, et al.[1] described a reversible component to ischemic colitis in 1963, it was not until Marston and associates[2] defined the three stages of the disease that the natural history of ischemic colitis became understood.**

## Anatomic and Physiologic Considerations

Most studies[2,3,4] have reported that ischemic colitis usually involves the splenic flexure and sigmoid colon. This distribution has been attributed to the blood flow to these sites being dependent in each case upon two anastomosing vessels from larger arterial networks. At the splenic flexure, a point described as Griffith's point marks the juncture of the superior mesenteric artery and inferior mesenteric artery via a marginal artery running on the mesocolic surface of the colon. In the sigmoid, the point marking the junction of the inferior mesenteric artery and the hypogastric system via sigmoidal and superior hemorrhoidal branches has been called the critical point of Sudeck. While perfusion to both sites may be adequate during periods of normal flow, these sites are especially vulnerable to ischemic injury during periods of hemodynamic compromise.

Ischemic insult to the colon can occur from a variety of causes, all resulting in decreased oxygenation of the involved segment of colon. A number of specific underlying associated diseases have been implicated, including diminished cardiac output, as in congestive heart failure; stagnant flow, as in polycythemia vera; large vessel disease, as in arteriosclerosis; or small vessel disease, as in vasculitis from many causes, such as systemic lupus erythematosus or rheumatoid arthritis. Surgery can be a predisposing factor, especially when the inferior mesenteric artery is ligated, as in aortic or colonic surgery. A number of drugs have been implicated in the genesis of ischemic colitis including digitalis, a variety of antihypertensive and diuretic medications, oral contraceptives, vasopressors, and catecholamines. In addition, hypotension can lead to the development of colonic ischemia, and this includes hypotension of cardiogenic, septic, hemorrhagic or hypovolemic origin.

Once the ischemic injury has occurred, a number of factors influence the subsequent course and severity of the disease. The extent and duration of the decrease in blood flow is always a factor in the severity of the disease, and treatment in all cases is aimed at improving flow. The adequacy of the collateral circulation will influence or modify the extent of injury. The concentration of colonic bacteria appears to be an important factor, particularly since the mucosal barrier to bacteria is broken early in the course of the disease. This may explain in part why colonic ischemia with severe sepsis occurs less frequently following elective colonic and elective aortic surgery. In both instances, the colon has usually undergone mechanical and antibiotic preparation, and bacterial counts have been markedly decreased. An additional factor affecting the outcome is distension of the involved colon segment, since distension of the colonic wall further compromises blood flow to that segment by decreasing the transmural blood flow.

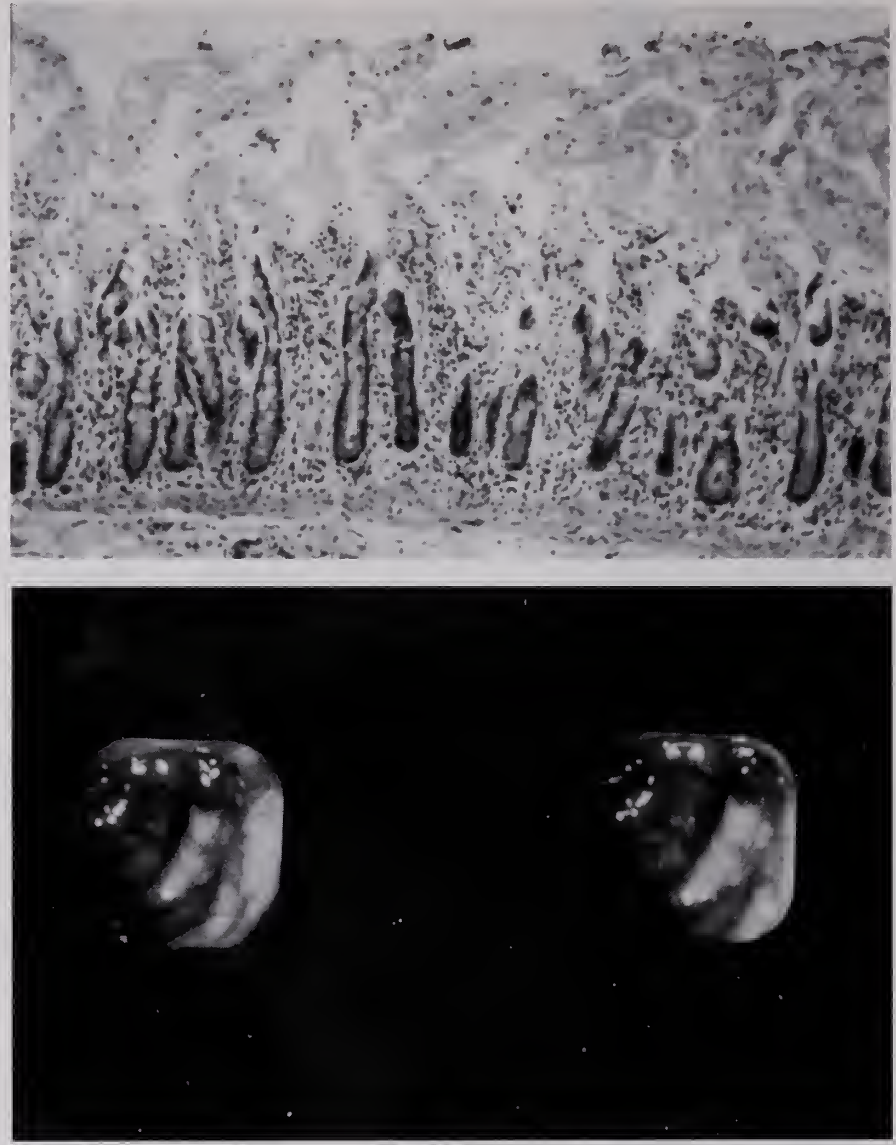
## Natural History of Ischemic Colitis

Marston, et al.[2] described the three classical stages of ischemic colitis as transient, ischemic stricture, or gangrenous. Ischemic colitis actually forms a spectrum of diseases ranging in severity from transient reversible disease to gangrenous perforating disease. The stricture stage usually represents a late complicating stage of the less severe transient variant.

Transient ischemic colitis is predominantly a disease of the colonic mucosa. Histologically, mucosal necrosis and ulceration is seen, along with a hemorrhagic infiltration and submucosal edema (Figure 1A). Grossly, this may appear as a spasm, vascular congestion, longitudinal ulcerations, or petechial hemorrhages (Figure 1B). On barium enema exam, a characteristic "thumbprinting" or "pseudotumor" defect may be seen, corresponding to areas of submucosal hemorrhage that cause distortion of the lumen (Figure 1C). Most often, these mucosal changes return to normal, although occasionally late ischemic stricture formation may occur.

The ischemic stricture phase involves injury to both the mucosa and muscle layers with subsequent healing by fibrosis. Histologically, there is marked fibrosis within the muscular layer, and the mucosa is often replaced by granulation tissue (Figure 2A). Grossly, this may take the form of a short or long strictured segment of colon with loss of normal mucosa (Figure 2B). Although thumbprinting and other acute findings may be seen on barium enema, the key finding is the presence of a stricture that does not dilate during the course of a study (Figure 3B). The ischemic stricture stage may be reversible, in part, as some strictures may dilate over a period of months or years and not cause clinical symptoms.

Gangrenous colitis is characterized by full thickness necrosis. It is irreversible and goes on to perforation, sepsis, or death, unless appropriate intervention is undertaken. Microscopically, transmural necrosis is characterized by inflammation of all layers of the bowel (Figure 3A). Grossly, there is often a sharp demarcation between viable and nonviable colon, with patchy to confluent gray-black discoloration across the involved segment (Figure 3B). The diagnosis is made on clinical grounds, and contrast studies or colonoscopy are generally contraindicated.



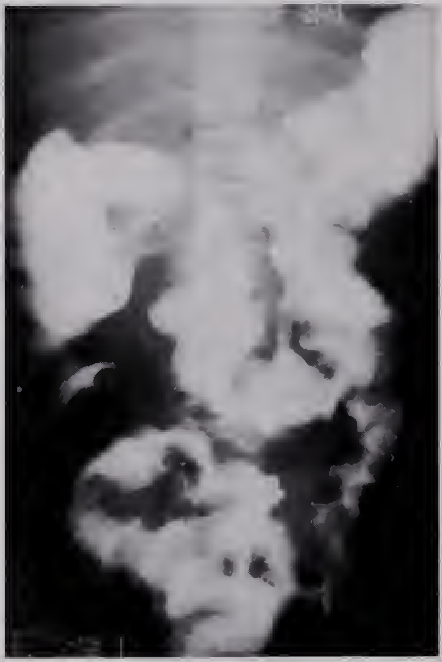


**FIGURE 1 — Transient ischemic colitis: A. Photomicrograph revealing mucosal necrosis and hemorrhagic infiltration. B. Endoscopic view showing vascular congestion and petechial hemorrhages. C. Barium enema with "thumbprinting" of sigmoid from submucosal hemorrhages.**

## Clinical Signs and Symptoms

Classifically, ischemic colitis is characterized by the sudden onset of left-sided abdominal pain. The site of the pain may often correspond to the distribution of the colitis in the colon. Bloody diarrhea usually appears with the onset of mucosal necrosis, although a complicating localized ileus may lead to distension instead. There may be an associated fever, and leukocytosis is common.

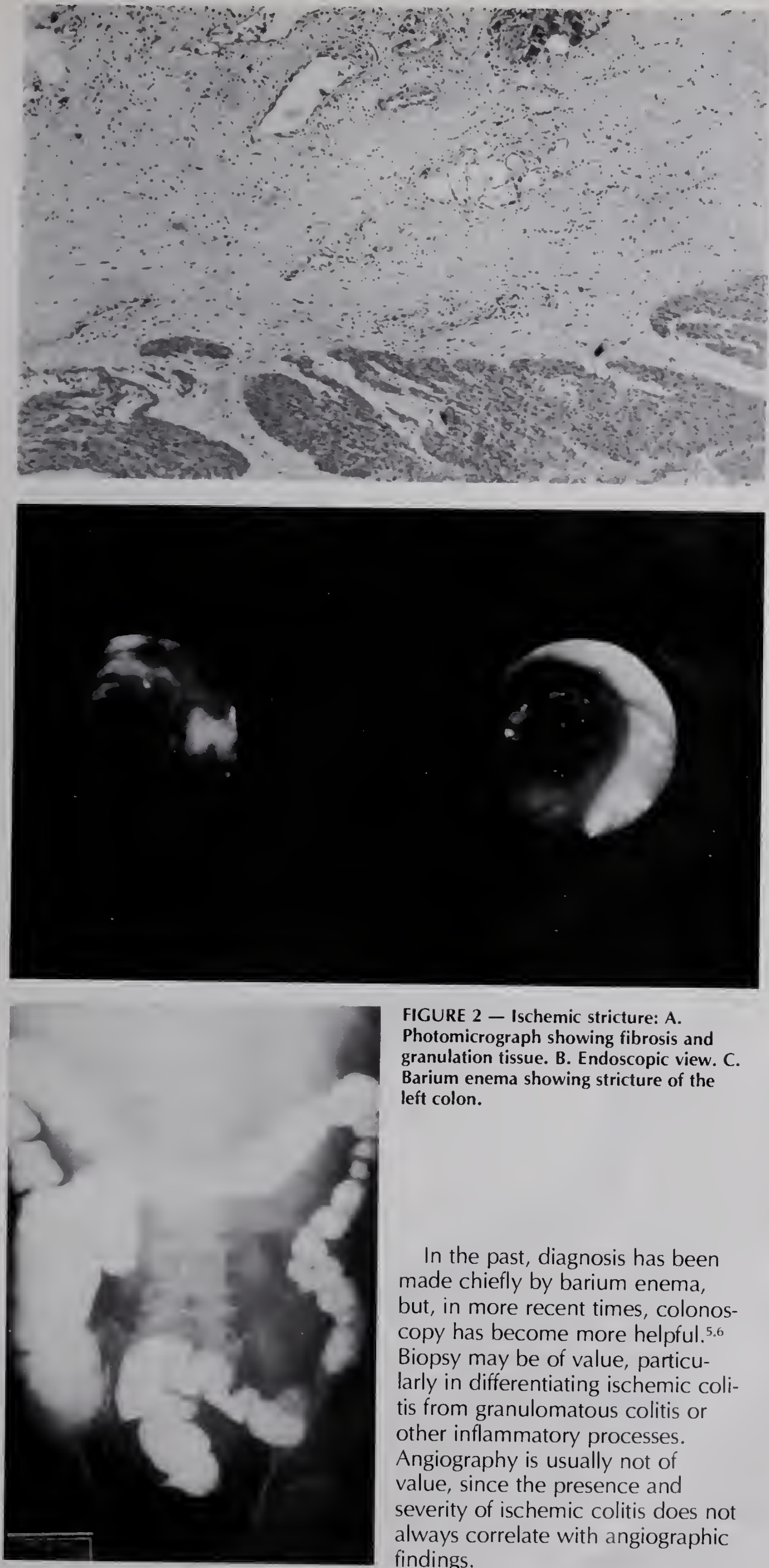


FIGURE 2 — Ischemic stricture: A. Photomicrograph showing fibrosis and granulation tissue. B. Endoscopic view. C. Barium enema showing stricture of the left colon.

In the past, diagnosis has been made chiefly by barium enema, but, in more recent times, colonoscopy has become more helpful.[5,6] Biopsy may be of value, particularly in differentiating ischemic colitis from granulomatous colitis or other inflammatory processes. Angiography is usually not of value, since the presence and severity of ischemic colitis does not always correlate with angiographic findings.

## Treatment

Since ischemic colitis is clearly a disease of varying severity, treatment must be modified in accord with the extent and progression of the disease. For mild disease, the patient can often be followed as an outpatient, with treatment limited to observation, possibly in conjunction with a clear liquid diet and oral antibiotics. For more significant disease, the patient should be treated and monitored closely in a hospital setting. Nasogastric suction is of value early in the course, as it may prevent colonic distension, which may adversely contribute to the course of the disease. Intravenous fluids should be instituted at once to maintain hydration; consideration should be given to total parenteral nutrition if the disease appears likely to run a prolonged course. Antibiotics effective against anaerobic and aerobic coliform bacteria should be instituted early. Agents to improve local flow, either by reducing spasm (e.g., papaverine) or lowering viscosity (e.g., dextran) are of uncertain value.

The indications for surgery in ischemic colitis vary with the type and severity of the disease. In the milder, but protracted, cases, surgery should be considered if the patient fails to improve significantly within a reasonable period of time. A reasonable period would be about two weeks, although usually the clinical course is well defined earlier than this. For gangrenous cases, the decision to proceed with surgery should be based on the clinical evidence for peritonitis, perforation, or megacolon. For ischemic stricture cases, surgery should be reserved for those patients who have clinically significant strictures, and the decision should not be based on either the radiographic or endoscopic appearance of the stricture alone.

## Ischemic Colitis Following Aortic Surgery

Ischemic colitis following aortic surgery is a highly specific variant of ischemic disease. Endoscopic studies by Hagihara and associates[7,8] have shown that although only one to two percent of patients having elective abdominal aortic aneurysm resection will have clinical ischemic colitis; 6.8 percent will have endoscopic evidence of disease. The incidence of endoscopic disease increases almost tenfold to 60 percent following emergency aortic aneurysm resection. The mortality rate for signficant ischemic colitis complicating elective aortic aneurysm resection is 40 to 65 percent, and this increases to almost 100 percent for those clinical cases that accompany an emergency aneurysm resection. A variety of factors have been implicated in the genesis of ischemic colitis following aortic surgery, but the most tenable include the effects of inferior mesenteric artery ligation on a patent inferior mesenteric arterial system, the presence of pre- or intraoperative hypotension, and the possible existence of an aortoiliac steal syndrome in which blood is diverted away from the left colon to the revascularized lower extremities.

## Hennepin County Medical Center Experience

A recent review of the HCMC experience[6] with ischemic colitis between 1983 and 1987 revealed some findings that differ from previous accounts of the disease. Thirty-nine patients were studied, including 21 females and 18 males. The average age was 68.7 years. Among 13 patients under the age of 65, seven patients had chronic renal failure and four had hematologic, vasculitic, or collagen vascular diseases. An additional six patients had congestive heart failure, and five had vascular disease. Among 26 patients older than 65, the distribution of associated diseases was more in keeping with the expected diseases of this age group, including congestive heart failure in 11 patients, vascular disease in eight, chronic obstructive pulmonary disease in six, and diabetes in six. Two of the older patients had hematologic or collagen diseases, and one had renal failure. In the HCMC series, the diseases occurred as a spontaneous event in 28 of 39 patients, as a complication of aortic surgery in five patients, as a complication of hypotension in three, following hemodialysis in two, and following acute aortic thrombosis in one. Nineteen of the patients were being treated with digoxin, and levels were obtained on 16; 25 percent of these were found to be in the digitalis toxicity range. Diagnosis was made either by surgery or endoscopy in 30 of the 39 patients, with the diagnosis made by X-ray in only two.

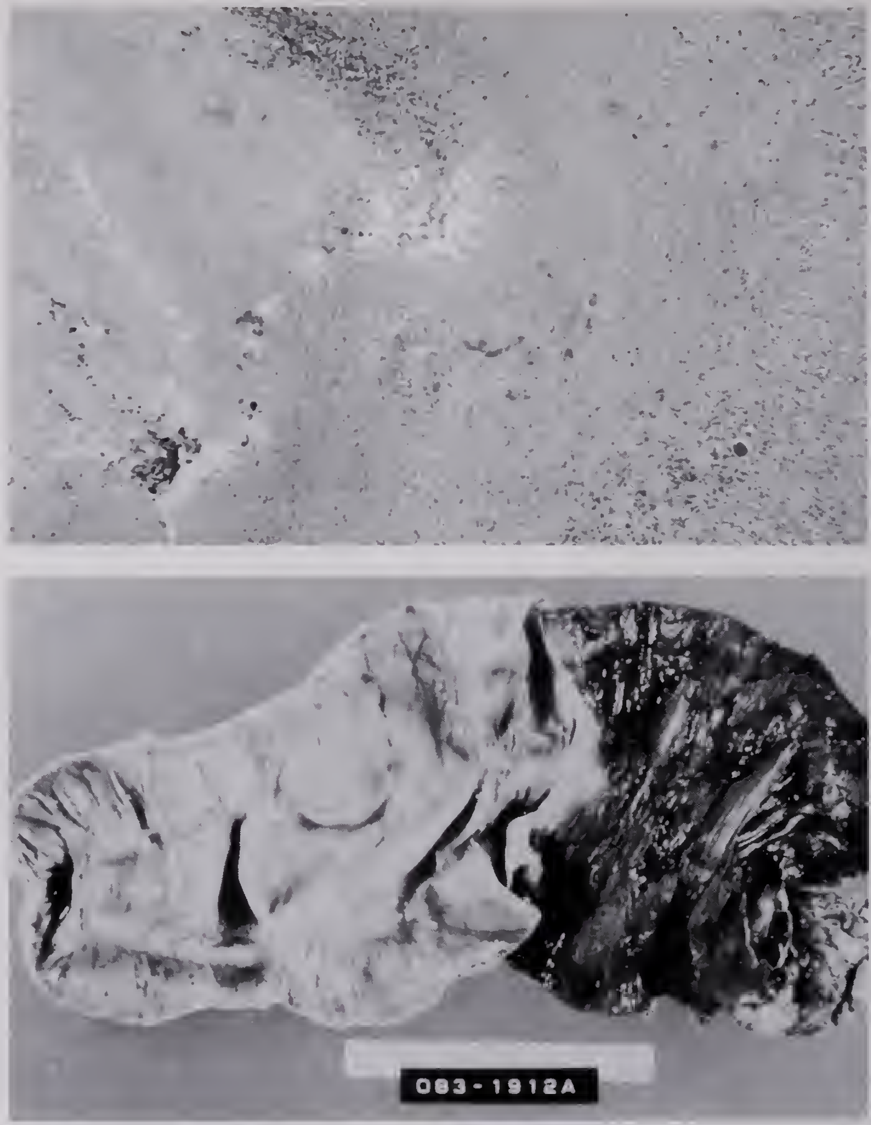


FIGURE 3 — Gangrenous colitis: A. Photomicrograph showing full thickness necrosis. B. Operative specimen with sharp demarcation between infarcted and viable colon.

The striking finding in the HCMC series was the predilection of the ischemic colitis for the right side of the colon. The extent of the disease was defined in 36 patients, and, in 18 of these patients, the disease involved either the right colon alone (13) or the entire colon, including the rectum (five). Six patients had disease confined to the splenic flexure, and 10 were confined to the sigmoid. In two patients the disease was confined to the rectum. The right-sided predilection in this series tends to emphasize the importance of factors other than large vessel blood flow in the genesis of ischemic colitis. The influence of shock, vasculitis, and small vessel disease and low flow states appeared to be especially important in this population.

In the HCMC experience, 19 patients were managed without surgery, and the disease resolved in

11 of these patients. Five of the other patients died after refusing surgery; two were moribund at the time of diagnosis, and diagnosis was made at autopsy in one. Ten patients were available for follow-up, and only one patient developed recurrent disease; one patient had an asymptomatic stricture. Among 20 patients who underwent surgery, 17 underwent resection without anastomosis, and 11 died; two underwent resection with anastomosis, and both died of septic complications; and a third patient had a laparotomy and second look without resection and survived.

The overall HCMC mortality for this hospitalized group was 53.8 percent, with 21 deaths occurring in 39 patients. The most striking factor involved in prognosis was the presence of shock at the time of diagnosis, signifying advanced disease. Twelve of 13 patients who presented with shock died, a 92.3 percent mortality rate. The prognosis was also grave for patients who developed ischemic colitis complicating abdominal aortic surgery (80 percent mortality).

Survival might have been improved by earlier diagnosis, especially before the onset of shock and clinical sepsis. In view of the poor prognosis for patients who require surgery, resection without anastomosis appears to be the safest option, since it avoids the potential septic anastomotic complications associated with anastomoses done under emergency conditions in the presence of an ischemic process.

In summary, ischemic colitis is a spectrum of diseases that can be associated with a number of systemic diseases, including: renal failure; arteriosclerotic heart and vascular disease; and hematologic, vasculitic, or connective tissue diseases. The disease traditionally has been described as involving the splenic flexure and sigmoid, but the HCMC experience suggests that it may involve the right colon as well. Regardless of distribution, this should be viewed as a serious disease in hospitalized patients, with a mortality rate that may exceed 50 percent.

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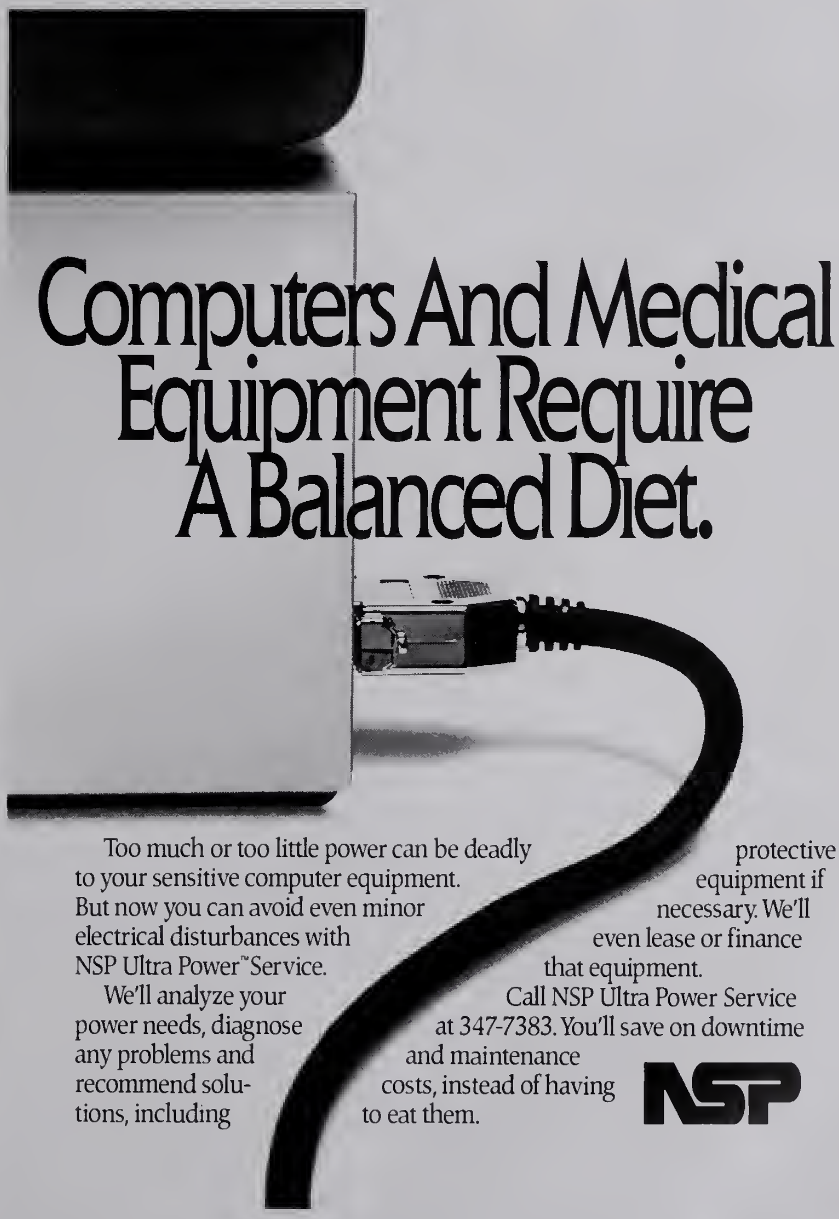

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# The Bovine Carotid Artery Heterograft as a Vascular Access Conduit for Chronic Hemodialysis

*Robert C. Andersen, M.D., Arthur L. Ney, M.D., Mark D. Odland, M.D., James H. Andrisevic, M.D., Mary C. Madden, and Mary J. LaCombe*

**Increasing numbers of conduit material, both of biologic and synthetic origin, are available for vascular access for the chronic hemodialysis patient. The first conduit that became widely available was the bovine artery heterograft ("Bovine"). Since 1972, we have used the "Bovine" as the principal conduit for vascular access for the chronic hemodialysis patient at the Hennepin County Medical Center (HCMC). Many reports claim superiority of one conduit as compared with another. With this perspective, we reviewed the past 15 years experience at HCMC with the "Bovine" conduit. We have divided that experience into three five-year periods in order to determine whether time and experience with vascular access and improvements in patient care have had an impact on the survival of the "Bovine" in providing vascular access. Our impression was that our surgical group had become progressively more aggressive in the management of vascular access complications during this 15 years, and that the literature during this time frame provided a number of new "rescue" techniques.**

## Patient Population, Setting, and Methods

In 1972, the first bovine carotid artery heterograft ("Bovine") was placed for vascular access for hemodialysis at HCMC. Six hundred ninety-three were placed between January 1, 1972, and December 31, 1986. These "Bovine" were divided into three groups of five years each. There were 198 placed from 1972 to the end of 1976, 248 from 1977 through 1981, and 247 from 1982 through 1986. One hundred seventy-one "Bovine" conduits were placed in diabetic patients. The surgeons involved in these cases included five staff surgeons and the residents on the vascular access service from 1972 through 1986. The most common configuration of placement of the "Bovine" was as a loop in the forearm (Figure 1).

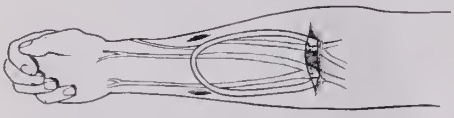

FIGURE 1 — Diagram of "loop bovine" in the forearm.

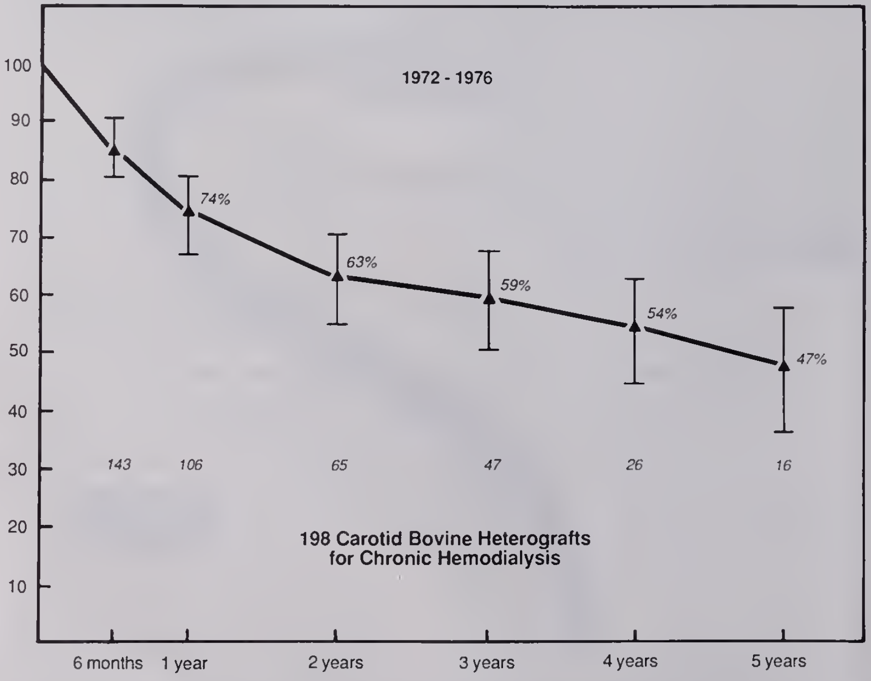

FIGURE 2 — 198 "bovine" fistulas done from 1972 through 1976.

## Results

We used the life-table method of analysis to evaluate conduit survival. Failed conduits were considered failed. Grafts functioning at the time of a patient's death, those functioning at the time of transplant, those conduits lost to follow-up, as well as those grafts that continued to function, were all considered as surviving.

In the first group, 1972 through 1976, all "Bovines" had the opportunity to go five years. This group consisted of 198 conduits, and the actual yearly survival rates through five years were 74, 63, 59, 54, and 47 percent. The average survival

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### INDICATIONS AND USAGE

Cipro® is indicated for the treatment of infections caused by susceptible strains of the designated microorganisms in the conditions listed below

**Lower Respiratory Infections** caused by *Escherichia coli, Klebsiella pneumoniae, Enterobacter cloacae, Proteus mirabilis, Pseudomonas aeruginosa, Haemophilus influenzae, Haemophilus parainfluenzae*, and *Streptococcus pneumoniae*.

**Skin and Skin Structure Infections** caused by *Escherichia coli, Klebsiella pneumoniae, Enterobacter cloacae, Proteus mirabilis, Proteus vulgaris, Providencia stuartii, Morganella morganii, Citrobacter freundii, Pseudomonas aeruginosa, Staphylococcus aureus* (penicillinase and nonpenicillinase-producing strains), *Staphylococcus epidermidis*, and *Streptococcus pyogenes*.

**Bone and Joint Infections** caused by *Enterobacter cloacae, Serratia* marcescens, and *Pseudomonas aeruginosa*

**Urinary Tract Infections** caused by *Escherichia coli, Klebsiella pneumoniae, Enterobacter cloacae, Serratia marcescens, Proteus mirabilis, Providencia rettgeri, Morganella morganii, Citrobacter diversus, Citrobacter freundii, Pseudomonas aeruginosa, Staphylococcus epidermidis*, and *Streptococcus faecalis*

**Infectious Diarrhea** caused by *Escherichia coli* (enterotoxigenic strains), *Campylobacter jejuni, Shigella flexneri*,* and *Shigella sonnei** when antibacterial therapy is indicated

*Efficacy for this organism in this organ system was studied in fewer than 10 infections

Appropriate culture and susceptibility tests should be performed before treatment in order to isolate and identify organisms causing infection and to determine their susceptibility to ciprofloxacin Therapy with Cipro® may be initiated before results of these tests are known, once results become available appropriate therapy should be continued. As with other drugs, some strains of *Pseudomonas aeruginosa* may develop resistance fairly rapidly during treatment with ciprofloxacin Culture and susceptibility testing performed periodically during therapy will provide information not only on the therapeutic effect of the antimicrobial agent but also on the possible emergence of bacterial resistance

### CONTRAINDICATIONS

A history of hypersensitivity to ciprofloxacin is a contraindication to its use A history of hypersensitivity to other quinolones may also contraindicate the use of ciprofloxacin

### WARNINGS

CIPROFLOXACIN SHOULD NOT BE USED IN CHILDREN OR PREGNANT WOMEN The oral administration of ciprofloxacin caused lameness in immature dogs Histopathological examination of the weight-bearing joints of these dogs revealed permanent lesions of the cartilage Related drugs such as nalidixic acid, cinoxacin, and norfloxacin also produced erosions of cartilage of weight-bearing joints and other signs of arthropathy in immature animals of various species (SEE ANIMAL PHARMACOLOGY SECTION IN FULL PRESCRIBING INFORMATION)

### PRECAUTIONS

*General:*

As with other quinolones, ciprofloxacin may cause central nervous system (CNS) stimulation, which may lead to tremor, restlessness, lightheadedness, confusion, and very rarely to hallucinations or convulsive seizures Therefore, ciprofloxacin should be used with caution in patients with known or suspected CNS disorders, such as severe cerebral arteriosclerosis or epilepsy, or other factors which predispose to seizures (SEE ADVERSE REACTIONS).

Crystals of ciprofloxacin have been observed rarely in the urine of human subjects but more frequently in the urine of laboratory animals. Crystalluria related to ciprofloxacin has been reported only rarely in man, because human urine is usually acidic Patients receiving ciprofloxacin should be well hydrated, and alkalinity of the urine should be avoided The recommended daily dose should not be exceeded Alteration of the dosage regimen is necessary for patients with impairment of renal function (SEE DOSAGE AND ADMINISTRATION SECTION IN FULL PRESCRIBING INFORMATION).

*Drug Interactions*

Concurrent administration of ciprofloxacin with theophylline may lead to elevated plasma concentrations of theophylline and prolongation of its elimination half-life This may result in increased risk of theophylline-related adverse reactions If concomitant use cannot be avoided, plasma levels of theophylline should be monitored and dosage adjustments made as appropriate

Antacids containing magnesium hydroxide or aluminum hydroxide may interfere with the absorption of ciprofloxacin, resulting in serum and urine levels lower than desired; concurrent administration of these agents with ciprofloxacin should be avoided.

Probenecid interferes with the renal tubular secretion of ciprofloxacin and produces an increase in the level of ciprofloxacin in the serum This should be considered if patients are receiving both drugs concomitantly

As with other broad-spectrum antibiotics, prolonged use of ciprofloxacin may result in overgrowth of nonsusceptible organisms Repeated evaluation of the patient's condition and microbial susceptibility testing is essential. If superinfection occurs during therapy, appropriate measures should be taken

*Information for Patients*

Patients should be advised that ciprofloxacin may be taken with or without meals The preferred time of dosing is two hours after a meal Patients should also be advised to drink fluids liberally and not take antacids containing magnesium or aluminum concomitantly or within two hours after dosing Ciprofloxacin may cause dizziness or lightheadedness, therefore patients should know how they react to this drug before they operate an automobile or machinery or engage in activities requiring mental alertness or coordination

*Carcinogenesis, Mutagenesis, Impairment of Fertility*

Eight *in vitro* mutagenicity tests have been conducted with ciprofloxacin and the test results are listed below

Salmonella/Microsome Test (Negative)
*E. coli* DNA Repair Assay (Negative)
Mouse Lymphoma Cell Forward Mutation Assay (Positive)
Chinese Hamster $V_{79}$ Cell HGPRT Test (Negative)
Syrian Hamster Embryo Cell Transformation Assay (Negative)
*Saccharomyces cerevisiae* Point Mutation Assay (Negative)
*Saccharomyces cerevisiae* Mitotic Crossover and Gene Conversion Assay (Negative)
Rat Hepatocyte DNA Repair Assay (Positive)

Thus, two of the eight tests were positive, but the following three *in vivo* test systems gave negative results:

Rat Hepatocyte DNA Repair Assay
Micronucleus Test (Mice)
Dominant Lethal Test (Mice)

Long-term carcinogenicity studies in animals have not yet been completed

*Pregnancy – Pregnancy Category C.*

Reproduction studies have been performed in rats and mice at doses up to six times the usual daily human dose and have revealed no evidence of impaired fertility or harm to the fetus due to ciprofloxacin In rabbits, as with most antimicrobial agents, ciprofloxacin (30 and 100 mg/kg orally) produced gastrointestinal disturbances resulting in maternal weight loss and an increased incidence of abortion. No teratogenicity was observed at either dose After intravenous administration, at doses up to 20 mg/kg, no maternal toxicity was produced, and no embryotoxicity or teratogenicity was observed. There are, however, no adequate and well-controlled studies in pregnant women. SINCE CIPROFLOXACIN, LIKE OTHER DRUGS IN ITS CLASS, CAUSES ARTHROPATHY IN IMMATURE ANIMALS, IT SHOULD NOT BE USED IN PREGNANT WOMEN (SEE WARNINGS)

*Nursing Mothers*

It is not known whether ciprofloxacin is excreted in human milk, however, it is known that ciprofloxacin is excreted in the milk of lactating rats and that other drugs of this class are excreted in human milk. Because of this, and because of the potential for serious adverse reactions from ciprofloxacin in nursing infants, a decision should be made to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother.

*Pediatric Use*

Ciprofloxacin should not be used in children because it causes arthropathy in immature animals (SEE WARNINGS).

### ADVERSE REACTIONS

Ciprofloxacin is generally well tolerated During clinical investigation, 2,799 patients received 2,868 courses of the drug Adverse events that were considered likely to be drug related occurred in 7.3% of courses, possibly related in 9.2%, and remotely related in 3.0% Ciprofloxacin was discontinued because of an adverse event in 3 5% of courses, primarily involving the gastrointestinal system (1 5%), skin (0 6%), and central nervous system (0.4%)

The most frequently reported events, drug related or not, were nausea (5 2%), diarrhea (2 3%), vomiting (2.0%), abdominal pain/discomfort (1.7%), headache (1 2%), restlessness (1.1%), and rash (1.1%).

Additional events that occurred in less than 1% of ciprofloxacin courses are listed below Those typical of quinolones are italicized

GASTROINTESTINAL: *(See above)*, painful oral mucosa, oral candidiasis, dysphagia, intestinal perforation, gastrointestinal bleeding

CENTRAL NERVOUS SYSTEM. *(See above), dizziness, lightheadedness, insomnia, nightmares, hallucinations, manic reaction, irritability, tremor, ataxia, convulsive seizures, lethargy, drowsiness, weakness, malaise*, anorexia, *phobia, depersonalization, depression, paresthesia*.

SKIN/HYPERSENSITIVITY. *(See above), pruritus, urticaria, photosensitivity, flushing, fever, chills, angioedema, edema of the face*, neck, *lips, conjunctivae or hands*, cutaneous candidiasis, hyperpigmentation, erythema nodosum.

SPECIAL SENSES: *blurred vision, disturbed vision, (change in color perception, overbrightness of lights), decreased visual acuity, diplopia, eye pain, tinnitus, bad taste*

MUSCULOSKELETAL *joint or back pain, joint stiffness*, achiness, neck or chest pain, flare-up of gout

RENAL/UROGENITAL *interstitial nephritis, renal failure*, polyuria, urinary retention, urethral bleeding, vaginitis, acidosis.

CARDIOVASCULAR. palpitations, atrial flutter, ventricular ectopy, syncope, hypertension, angina pectoris, myocardial infarction, cardiopulmonary arrest, cerebral thrombosis

RESPIRATORY: epistaxis, laryngeal or pulmonary edema, hiccough, hemoptysis, dyspnea, bronchospasm, pulmonary embolism

Most of these events were described as only mild or moderate in severity, abated soon after the drug was discontinued, and required no treatment.

In several instances, nausea, vomiting, tremor, restlessness, agitation, or palpitations were judged by investigators to be related to elevated plasma levels of theophylline possibly as a result of a drug interaction with ciprofloxacin.

*Adverse Laboratory Changes*. Changes in laboratory parameters listed as adverse events without regard to drug relationship:

Hepatic – Elevations of: ALT (SGPT) (1.9%), AST (SGOT) (1.7%), alkaline phosphatase (0 8%), LDH (0.4%), serum bilirubin (0 3%)

Hematologic – eosinophilia (0.6%), leukopenia (0 4%), decreased blood platelets (0 1%), elevated blood platelets (0.1%), pancytopenia (0.1%).

Renal – Elevations of Serum creatinine (1 1%), BUN (0.9%)

CRYSTALLURIA, CYLINDRURIA, AND HEMATURIA HAVE BEEN REPORTED

Other changes occurring in less than 0.1% of courses were Elevation of serum gammaglutamyl transferase, elevation of serum amylase, reduction in blood glucose, elevated uric acid, decrease in hemoglobin, anemia, bleeding diathesis, increase in blood monocytes, and leukocytosis.

### OVERDOSAGE

Information on overdosage in humans is not available In the event of acute overdosage, the stomach should be emptied by inducing vomiting or by gastric lavage. The patient should be carefully observed and given supportive treatment. Adequate hydration must be maintained. In the event of serious toxic reactions from overdosage, hemodialysis or peritoneal dialysis may aid in the removal of ciprofloxacin from the body, particularly if renal function is compromised

### DOSAGE AND ADMINISTRATION

The usual adult dosage for patients with urinary tract infections is 250 mg every 12 hours For patients with complicated infections caused by organisms not highly susceptible, 500 mg may be administered every 12 hours.

Respiratory tract infections, skin and skin structure infections, and bone and joint infections may be treated with 500 mg every 12 hours For more severe or complicated infections, a dosage of 750 mg may be given every 12 hours.

The recommended dosage for infectious diarrhea is 500 mg every 12 hours

In patients with renal impairment, some modification of dosage is recommended (SEE DOSAGE AND ADMINISTRATION SECTION IN FULL PRESCRIBING INFORMATION).

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was 693 days. There were an average of 1.6 procedures per graft life, or one procedure every 430 days (Figure 2).

The second group of 248 "Bovines," placed from 1977 through 1981, also had the opportunity to survive five years and had actual yearly survival rates of 87, 77, 68, 65, and 58 percent. The average survival of this group was 871 days, with 1.5 procedures per graft life, or one procedure every 551 days (Figure 3).

Two hundred forty-seven "Bovines" were in the group from 1982 through 1986. A number of these conduits have not had the opportunity to go five years. Therefore, the survival rates are projected by the life-table analysis. The projected yearly survival rates are 91, 83, 80, 70, and 70 percent. So far the average survival is 567 days, with 1.3 procedures per graft (Figure 4). Many of these conduits continue to function, and, therefore, the average survival will continue to increase, as will the number of procedures per graft.

Of the total of 693 "Bovines," 171 were placed in diabetic patients over that 15-year period. In this group of patients, the yearly survival rates were 88, 81, 78, 75, and 75 percent (Figure 5).

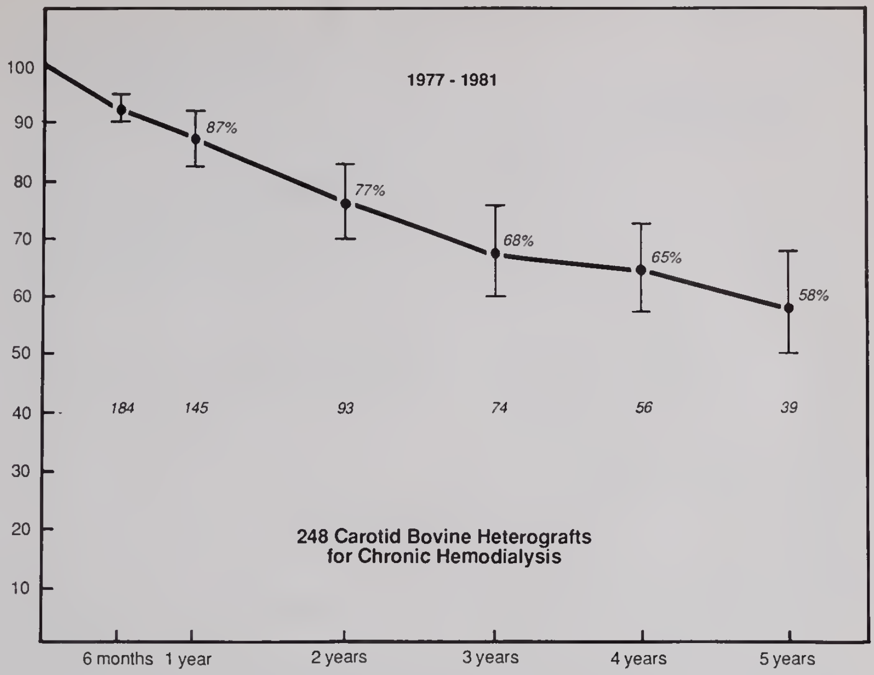

FIGURE 3 — 248 "bovine" fistulas done from 1977 through 1981.

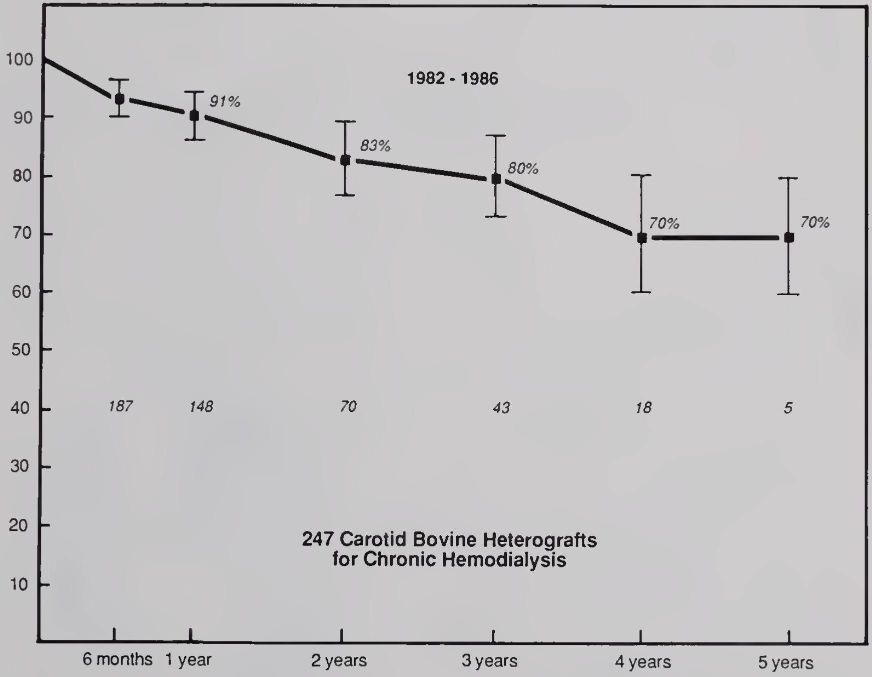

FIGURE 4 — 247 "bovine" fistulas done from 1982 through 1986.

## Discussion

Vascular conduits placed for access for hemodialysis are subjected to different stresses than conduits placed to provide flow to an extremity. Three times a week, two 14-guage needles are used to access the blood stream, via the conduit, to the "dializer." The "loop" configuration provides twice the length of conduit to disperse this trauma; we think this plays a part in prolonging survival.

The Brescia-Cimino (Appel), or simple fistula, is the primary hemodialysis access procedure of choice. The bovine artery heterograft conduit, as with all similar conduits, should be considered a secondary form of vascular access and used only when native vessels are unavailable.

The "Bovine" conduit is not the only conduit used at HCMC. A number of types of PTFE conduits are regularly used, but the "Bovine" continues to predominate. Over the 15-year period, many of the dialysis nurses have advised us they "feel more comfortable" dealing with the "Bovine" conduit, and we have responded to that. In more recent years, with the nurses' exposure to an increased variety of conduit material, this bias has decreased.

Comparison of the three five-year periods shows that the long-term access provided by the "Bovine" is at least equal to that reported for many other dialysis access conduits (Figure 6). This comparison also reveals that there has been improvement in the survival rate with each succeeding five-year group. Comparison of the five-year survival rate of the 1972-1976 group with that projected for 1982-1986 group would suggest that there is improvement that is statistically significant. We believe this improvement is due to the experience gained over each successive five-year period. This experience has been manifested by an increased aggressivenes in dealing with the complications that attend the use of conduits for hemodialysis, such as clotting, venous stenosis, aneurysm formation, the "steal" phenomonen, and sepsis. As a result, conduits have been salvaged that would have been abandoned in the past. In addition to the improvement in surgical care, there has also been considerable improvement in the care given to the patient during and after dialysis. This improvement has come in the areas of fluid therapy, anticoagulation, control of bleeding after removal of the needles, and management of minor septic problems.

The diabetic patient has always been considered to present a greater challenge in vascular access for hemodialysis, and we were surprised to find that the "Bovine" seemed to provide equally good access for this patient population. It should be pointed out that patient survival in the diabetic group was not as good as that seen in the non-diabetic patient. However, if patient survival could be maintained, the "Bovine" did provide long-term vascular access.

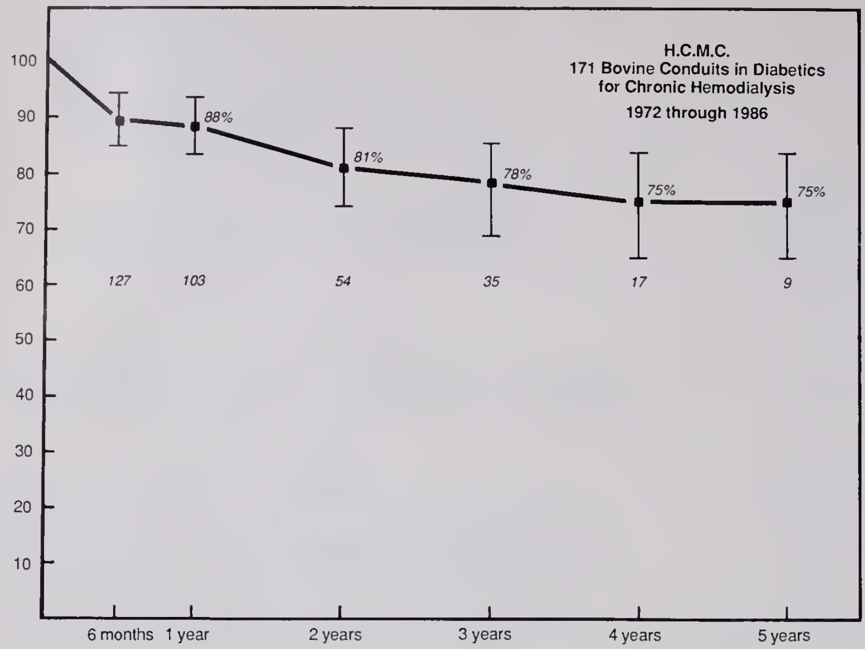

**FIGURE 5 — 171 "bovine" fistulas done in the diabetic patient from 1972 through 1986.**

**Conduit Survival**

**Bovine Heterograft**

| Report | | Years | # | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|---|
| HCMC | | 72-76 | 198 | 74% | 63% | 59% | 54% | 47% |
| HCMC | | 77-81 | 248 | 87% | 77% | 68% | 65% | 58% |
| HCMC | | 82-86 | 247 | 91% | 83% | 80% | 70% | 70% |
| HCMC (diabetics) | | 72-86 | 171 | 88% | 81% | 78% | 75% | 65% |
| Anderson CB, et al. | (1) | 74-79 | 76 | 70% | 45% | | | |
| Butler HG, et al. | (2) | 73-75 | 103 | 83% | 76% | 68% | 63% | |
| Bubridge GE, et al. | (3) | 73-75 | 73 | 90% | 60% | | | |
| Brems J, et al. (diabetics) | (4) | 78-83 | 82 | 81% | 74% | | | |
| Brems J, et al. | (4) | 78-83 | 385 | 79% | 69% | 63% | 51% | |
| Foran RJ | (5) | | 52 | 72% | 62% | | | |

**Polytetrafluroethelene**

| Report | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Anderson CT, et al. | (6) | | 100 | 87% | 73% | | | |
| Sabanayagam P, et al. | (8) | | 225 | 90% | 84% | | | |
| Chatterjee SN, et al. | (7) | | 36 | 84% | 84% | | | |
| Butler HG, et al. | (2) | 73-75 | 184 | 75% | 74% | | | |

**Umbilical Vein Homograft**

| Report | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Jorgensen L, et al. | (9) | 79-84 | 26 | 63% | 48% | | | |
| Wellington JL, et al. | (10) | 79-81 | 23 | 57% | | | | |

**Saphenous Vein Autograft**

| Report | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| HCMC | | 69-72 | 32 | 65% | 57% | 52% | 46% | 40% |
| Lernoy W, et al (arm) | (11) | 73-83 | 20 | 68% | 58% | 58% | 58% | 58% |

**FIGURE 6 — Comparison of survival of the bovine carotid artery homografts of our series with reports of conduit survival from the literature.**

## Conclusions

The bovine carotid artery heterograft conduit for vascular access can provide long-term hemodialysis access.

The useful life of a "Bovine" conduit may be prolonged with increasing surgical experience and aggressive management of complications.

The diabetic as well as the non-diabetic patient may benefit equally by hemodialysis access provided by the "Bovine" conduit.

Long-term access with the "Bovine" is comparable to reported results of other conduits.

---

*Robert Andersen, Arthur Ney, Mark Odland, and James Andrisevic are surgeons in the transplant surgery department at Hennepin County Medical Center.*
*Mary Madden and Mary Jane LaCombe are transplant coordinators in the same department.*

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# Appendicitis in Children

*Robert W. Emmens, M.D., and Thomas C. Putnam, M.D.*

**Appendicitis can present a most perplexing diagnostic dilemma to the surgeon, even in the most cooperative patient. This problem becomes even more difficult in the pediatric age group, in which the young child may be not only a poor historian but also uncooperative. Recently, we reviewed operations performed in Rochester, New York, from January, 1972, through July, 1987, on children with a preoperative diagnosis of acute appendicitis. The children were cared for in three different institutions, and all were operated on in teaching institutions under the direct supervision of pediatric surgeons. This is a retrospective analysis, and no comparison was made with children operated on by other surgeons in the community.**

The initial group of patients comprised 714 patients, 651 with appendicitis, operated on from January, 1972, through July, 1982. Seven hundred five patients underwent surgery at the time of initial presentation. Nine patients (1.3 percent) were treated expectantly with intravenous antibiotics for seven to 10 days. With resolution of their inflammatory right lower quadrant mass, patients were discharged and brought back for an internal appendectomy four to six weeks later. Sixty-three patients (8.8 percent) had a normal appendix removed.

Ages ranged from 16 months to 27 years, with a mean age of 10 years. In this group, 404 (56.6 percent) had a gross and histologic diagnosis of acute, nonperforated appendicitis. There were 238 patients (33.3 percent) with perforated appendicitis. In this group, 129 had generalized peritonitis, 43 had localized peritonitis, and 66 presented with an abscess requiring drainage at the time of appendectomy. The number of female patients was 293, while the number of male patients was 421.

It is generally accepted that children who are younger have a higher incidence of perforation, probably related to the fact they are poorer historians, somewhat more uncooperative, and also have a thinner-walled appendix. In this series, children less than five years of age had a 72 percent perforation rate, while children over five years of age had a 34 percent perforation rate. It is also generally accepted that the longer a patient is sick prior to presentation to the surgeon, the higher the incidence of perforation. In this series, children with acute appendicitis complained of abdominal pain for approximately one day, whereas children with perforated appendicitis complained of pain for two days. Patients who presented with an intra-abdominal abscess had been complaining of pain for approximately seven days. Likewise, length of stay was longer in children with the more serious illness. Patients with acute appendicitis had an average hospital stay of 3.3 days. Children with perforated appendicitis required hospitalization for 7.6 days on an average, whereas patients with an abscess were hospitalized with an average length of stay of 9.7 days.

Postoperative complications were seen in 62 patients, with an overall complication rate of 8.7 percent. There were 28 major complications in 22 patients for a rate of 3.1 percent. In this group were included 10 intra-abdominal abscesses, 11 cases of small bowel obstruction, seven of whom required operative intervention. Other complications included wound dehiscence, cholecystitis, psychosis, urinary tract infection, empyema, and two cases of pneumonia. There were 41 minor complications in 40 patients, a rate of 5.6 percent. Included in this group were 22 wound infections and 10 patients who developed a cutaneous rash in response to their antibiotic. The most common antibiotic causing a rash was ampicillin. Three patients had a prolonged ileus, and three patients had an inflammatory intra-abdominal mass that resolved with continued antibiotic therapy.

In 1976, clindamycin was introduced as a routine in the antibiotic coverage of children with perforated appendicitis. Prior to that time, antibiotic coverage was routinely ampicillin and kanamycin. From 1976 through 1982, this coverage was expanded to include an aminoglycoside, clindamycin, and either ampicillin or Keflin. When results were analyzed, there was no significant difference as to whether or not Keflin or ampicillin was in the triple antibiotic coverage. There was a signficant difference in the incidence of postoperative, intra-abdominal abscess formation and in the incidence of postoperative wound infection following the routine institution of clindamycin therapy in 1976. When all cases are considered, the incidence of intra-abdominal abscess formation dropped from four percent during 1972 to 1975 to .6 percent during 1976 to 1982. The incidence of postoperative wound infection dropped from three percent to 1.9 percent for the same time periods. It should be noted that there was no difference of incidence of small bowel obstruction with the institution of clindamycin therapy. If one looks at just the incidence in children with perforated appendicitis, one finds that incidence of intra-abdominal abscess formation fell from 11.8 percent to 2.2 percent, and the incidence of wound infection fell from 14.8 percent to 3.4 percent.

During this 10-year period, 28 patients with generalized peritonitis underwent peritoneal lavage with six liters of non-antibiotic containing irrigation solution. This was an attempt to decrease the incidence of intra-abdominal abscess formation and wound infection. Retrospective analysis of these patients did not show any significant difference in patients who underwent lavage compared to those who did not.

It should be noted that, in this group of 714 patients, there was no mortality and, again, the negative appendectomy rate was 8.8 percent.

From July, 1982 through July, 1987, 399 children underwent appendectomy for acute appendicitis.

Children ranged in age from 16 months to 19 years of age, with an average of 12 years. In this group, the ratio of males to females was 2 to 1. The perforation rate in this group was 30.5 percent, with 15 percent having generalized peritonitis, nine percent having localized peritonitis, and six percent presenting with an abscess. As in the previous group, approximately 2 percent of the patients presented with an inflammatory mass associated with acute appendicitis. This mass was treated with five to seven days of intravenous antibiotics with resolution of the process. These patients were brought back four to six weeks later for an interval appendectomy. The perforation rate between males and females was identical. Children less than five years of age again had a higher perforation rate in this group, being 64 percent compared to 27 percent in children over five years of age.

When the duration of pain prior to admission at the hospital is compared to the pathologic diagnosis, the mean induration of pain for acute appendicitis was 24 hours. Those children presenting with peritonitis from perforation of the appendix had been complaining of pain for an average of two days, while those who had formed an abscess had been complaining for approximately four days in this group. There did not appear to be any explanation for the shorter duration of pain in this group when compared to the seven-day history in the previous group in those children presenting with an abscess. In this group, the age of the child did not influence the likelihood of forming an abscess. In the previous group, younger children with perforated appendicitis were less likely to form an abscess, supposedly because of having a short omentum.

At the time of surgery, the appendix was always removed, and intra-abdominal drains were only used when a well-formed abscess was found. Generalized peritonitis was not drained, and approximately half of the patients with perforated appendicitis underwent intraperitoneal lavage with six liters of non-antibiotic containing electrolyte solution. All but three wounds were closed primarily, these being left open because of marked obesity of the patient. They were closed secondarily on the fourth or fifth postoperative day. None of these developed a wound infection.

When one compares the length of hospitalization in the two groups, the latter group did spend less time in the hospital. Children with acute appendicitis stayed in an average of two days, whereas those with perforated appendicitis and peritonitis spent an average of six days in the hospital. Those children with an abscess spent 7.5 days in the hospital. This shorter stay appears to be the result of ongoing physician education, and to a lesser degree, the influence of local HMOs.

As in the previous study, postoperative complications were divided into major and minor groups, with an overall complication rate of 5.7 percent. There were 26 complications in 23 patients, with 3.2 percent being major complications and 2.5 percent being minor complications. In looking back at the first group, it is apparent that the major complication rate is unchanged, whereas the minor complication rate has been lowered from the 6.3 percent in the first group. Once again routine antibiotic coverage, especially with clindamycin, resulted in a significantly lower incidence of postoperative intra-abdominal abscess formation and wound infection. Patients with perforated appendicitis who underwent lavage had a significantly higher incidence of postoperative abscess formation, postoperative small bowel obstruction, and prolonged ileus, when compared to the group not undergoing peritoneal lavage. In evaluating the hospital charts and operative reports, it is apparent that this difference in complication rate is not related to the concept that only the sicker children underwent lavage. Lavage also did not influence the incidence of wound infection, incidence of urinary tract infection, or pulmonary problems.

The culture results of the two groups were essentially identical, with *E. coli* being the most common bacteria cultured, *Bacteroides fragilis* the second most common, and *Enteric streptococcus* third most common. It also should be noted, there was no difference in the culture results of patients undergoing peritoneal lavage versus those not undergoing peritoneal lavage.

As in the first group, there was no mortality. There were an additional seven patients during the second study period who underwent an appendectomy with the preoperative diagnosis of acute appendicitis. In these children, the appendix was normal. Thus the diagnostic error rate was 1.7 percent. We feel this is related to our practice of admitting and closely observing children in whom the diagnosis is unclear. In these children, flat film of the abdomen occasionally would reveal a fecalith. If, after a period of observation, the diagnosis was still in doubt, barium enemas were frequently used. As a result of this, we feel that the frequently stated concept that a 15 to 20 percent normal appendectomy rate should be reexamined. We do feel that the 1.7 percent error rate in this study is acceptable, since our perforation rate is slightly over 30 percent—which is lower than the 35 to 45 percent reported in many series for children.

In summary, 1,120 patients underwent appendectomy with a preoperative diagnosis of acute appendicitis from 1972 through 1987. In this series, there were no deaths, and 70 patients were found to have a normal appendix at the time of surgery, a diagnostic error rate of 6.3 percent. The major complication rate was slightly over 3 percent, and the minor complication rate dropped from 6.3 percent to 2.5 percent in the later years. This lower complication rate appeared to be attributed to the routine use of an aminoglycocide and, especially, clindamycin. Perintoneal lavage seemed to have an adverse effect on the major complication rate. We feel the routine admission of questionable cases to the hospital for careful observation would result in a lower diagnostic error rate than the approximately 20 percent that is generally accepted and taught. We feel our mortality rate is due to adequate preoperative hydration, the routine use of preoperative antibiotics in cases of perforated appendicitis, and careful postoperative management.

---

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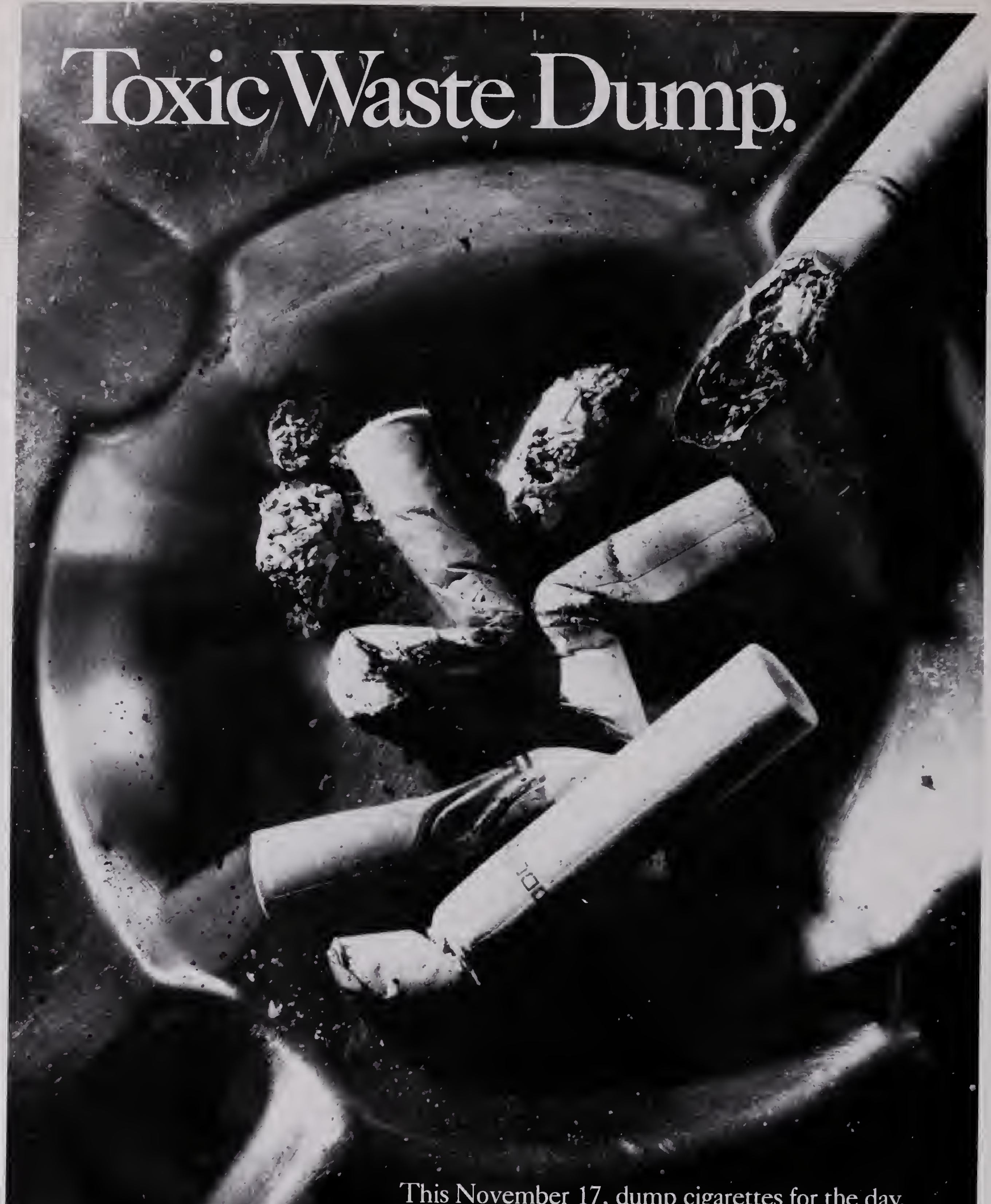
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# Medullary Thyroid Carcinoma in Children

*Robert L. Telander, M.D., Donald Zimmerman, M.D., and Jon A. van Heerden, M.D.*

**The challenging problem of cancer of the thyroid in children is highlighted by the problem of medullary thyroid carcinoma. This malignancy is associated with multiple endocrine neoplasia, Types IIa and IIb. Particularly intriguing is its association with an excellent marker, immunoreactive thyrocalcitonin (iCT).[1,2,3,4,5] This marker permits both the diagnosis and follow-up of patients with this unusual thyroid malignancy. Screening of all family members who are at risk is essential. Thus, the physician and surgeon have a great responsibility in managing not only the patient, but the family members as well. Early detection of medullary carcinoma of the thyroid, with its successful treatment in patients, provides an excellent example of the importance of early cancer detection.[6,7,8]**

**Prior to 1959, many pathologists considered medullary thyroid cancer to be a variant of anaplastic carcinoma. Studies have subsequently shown that it is a probable derivative of the neural crest (parafollicular or C cells), which exists in one or both lobes of the thyroid gland, particularly in its upper third. Children with medullary carcinoma of the thyroid may be divided into one of three groups: sporadic, multiple endocrine neoplasia Type IIa, or multiple endocrine neoplasia Type IIb (Figure 1).**

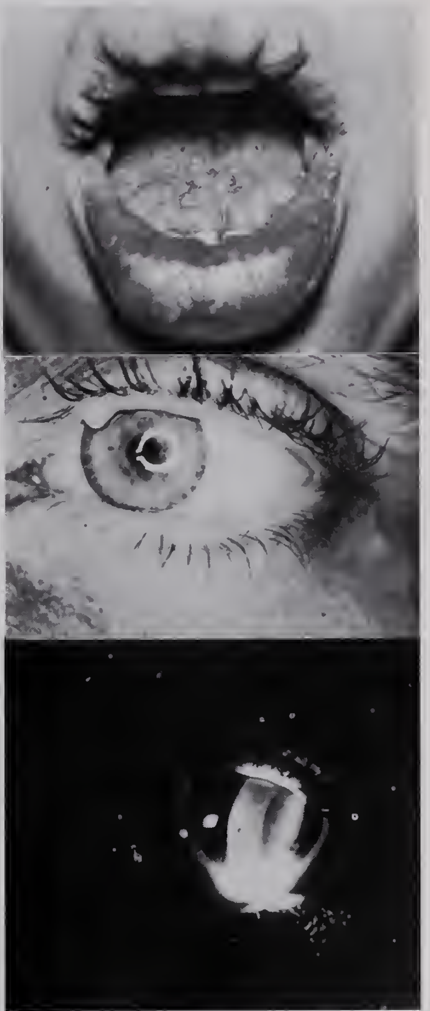

**FIGURE 1 – MEN-IIb. A, Ganglioneuromas involving the lips, tongue, and buccal mucosa in a child with MEN-IIb. B, Ganglioneuromas involving the eyelids in a child with MEN-IIb. C, Slit lamp examination of the cornea in a child with MEN-IIb demonstrating enlargement of corneal nerves.**

## Materials and Methods

Between 1975 and 1988, 18 children, 12 years of age or younger, underwent surgery at the Mayo Clinic for medullary carcinoma of the thyroid (MCT). The medical records were reviewed and patients were contacted. Immunoreactive calcitonin, both basal and pentagastrin, was measured in all children, both before and after operation. Plasma iCT is a specific humoral marker for MCT, measured by using anti-human calcitonin antisera G1701.

The surgical procedure consisted of total thyroidectomy and lymph nodes removal from the central zone, extending from the hyoid to the sternal notch, and medial to the jugular veins (Figure 2). Preservation of all four parathyroid glands was also performed. A modified neck dissection was performed if there was evidence of lymph node metastases, sparing the sternocleidomastoid muscle.

## Results

Of the 18 children, 15 had MEN2a and three had MEN2b. There were 15 female patients and three male patients. Fifteen of the children were asymptomatic when first examined, and were studied because they were at risk and were primary relatives of patients with MCT or MEN2. Three of the children had complaints related to a cervical lesion. Abnormal findings were present on physical examination in there three children. Two of the children had MEN2b and one MEN2a. All three children had palpable nodules in the thyroid gland, and both children with MEN2b also had palpable cervical nodes, suggesting metastatic disease. The basal iCT value (without stimulation) was normal in 13 of the 18 patients. Mild elevation was found in three patients without clinically palpable disease. A pronounced elevation was present in three children with clinically obvious disease. Elevated maximum iCT values were present in all 18 children after pentagastrin and calcium stimulation. Immunoreactive calcitonin was again measured on at least one occasion and multiple times in some patients after operation. All three children who presented with clinically palpable disease before surgery, and elevated basal iCT levels, continued to have a persistently elevated iCT level after operation, even though we were not able to localize metastatic disease, either by radiologic scans or physical examination.

Hyperparathyroidism was noted preoperatively in one of the 18 children. This child underwent removal of three and one-half of its parathyroid glands with resumption of normal calcium and iPTH postoperatively. None of the 18 children had evidence of pheochromocytoma. All 18 patients underwent total thyroidectomy with preservation of parathyroid glands. Parathyroid tissue was autotransplanted into the sternocleidomastoid muscle in two children.

In this group of 18 children, MCT with C cell hyperplasia was present in 12 of the children. Bilateral C cell hyperplasia alone remained in the rest.

All 18 patients were alive and well at the time of the most recent evaluation; however, three still had evidence of metastatic disease.

No children had anesthetic complications, recurrent nerve injury, postoperative hemorrhage, or cervical infections. One child did have evidence of hypoparathyroidism managed medically. All children with occult disease diagnosed by iCT determination alone survived and remained free of the disease at follow-up, whereas the remaining patients (three) with clinical disease when first examined, although alive, have evidence suggesting persistent metastic disease.

## Discussion

The detection of MCT by iCT screening is extremely important in the early detection in this cancer. This technique is an extremely important tool for diagnosing MCT while it is still in the occult stage.

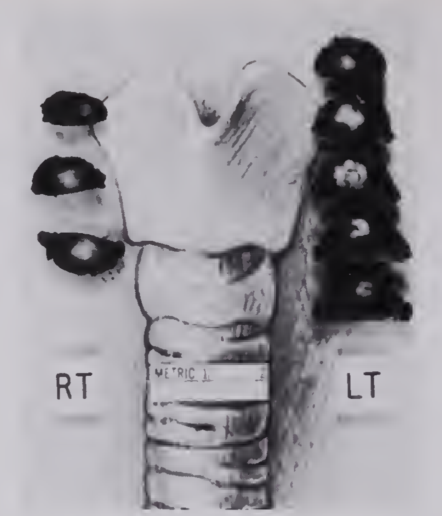

**FIGURE 2 – Medullary carcinoma of the thyroid in a child with MEN-II syndrome.**

When the initial screening of young children should begin is an important question. We choose to commence screening in children with MEN2a at age one. Children with MEN2b will essentially all have medullary carcinoma at an early age and should also undergo studies and surgery prior to the age of one.

Bartlett, et al.[9] and Thompson[10] have reported children 48- and 14-months-old with MCT as part of the MEN2b syndrome, while Thompson reported that his youngest patient with MEN2a and MCT or C-cell hyperplasia was an 11-year-old. Our youngest patient with MCT was three years of age.[11] For this reason, we continue to recommend that screening begin at age one, and occur yearly thereafter.

Clearly the morbidity associated with operation in very small children done in experienced hands is safe, permitting early surgical management of this very difficult problem.

Thus, of the patients in this study, all with occult disease when first diagnosed by iCT determination are alive and remain free of disease at follow-up. In contrast, the three children with clinical disease at the initial examination, although alive, have persistent and metastatic disease. This emphasizes the need for early and prompt screening of children and family members at risk for medullary carcinoma by the measurement of the iCT levels.

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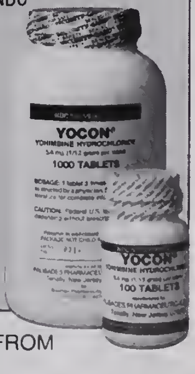

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# "Pumpkin Carvers" Tendon Injuries: Repair of Children's Flexor Tendon Lacerations Caused by a Sharp Knife

*William W. Winternitz, Jr., M.D., Lowell H. Kleven, M.D., Edward C. McElfresh, M.D., and James H. House, M.D.*

**The "Pumpkin Carvers Injury" involves laceration of one or more of the flexor tendons in Zone 2 of the hand (Figure 1).**

**Twelve children with this injury were studied in a retrospective manner. Repair of the tendons was performed in three different ways: (1) immediate primary repair, (2) delayed primary repair, and (3) delayed tendon grafting.**

**Results at two to 11 years follow-up demonstrate that a good or excellent result can be obtained even if a repair is performed one month post-injury. Other methods of repair are also discussed.**

Repair of childhood flexor tendon lacerations, located in the area described by Bunnell as "no-man's land," constitute a difficult technical problem. Historically there have been many problems associated with this injury because of the ease with which adhesions can form in this tight fibro-osseous sheath following direct repair of the tendons. This area, often called Zone 2 of the hand, extends from the first annular pulley to the level of flexor digitorum superficialis insertions (Figure 1). The problem of tendon lacerations in this zone of the fingers was addressed in 1922 by Bunnell[1], who demonstrated that a satisfactory result could be obtained by skin closure and delayed tendon grafting. Later Verdan[2] proved that good results could be obtained with primary repair, immediate or delayed. Kleinert, et al.[3,4] in 1967, demonstrated that excellent results could be obtained if these lacerations were treated by primary repair and dynamic splinting. Other authors[5,6] have shown that similar results can be obtained in the pediatric age group with primary repair. However, some surgeons[7] advocate primary skin closure and grafting in all cases.

## Materials and Methods

This paper reviews a retrospective study of flexor tendon injuries caused by a sharp knife in 12 children, ages seven through 12, while carving pumpkins (Figure 2). A comparison of the results of primary or delayed tendon grafting is presented after a follow-up period of two to 11 years. All patients were examined and photographed by the first author. The procedures described were performed by the other three authors. A series of injuries of this type in children, with identical cause of injury, has not previously been reported. Consideration is also given to prevention of the injury and the need to make a proper diagnosis at the time of injury.

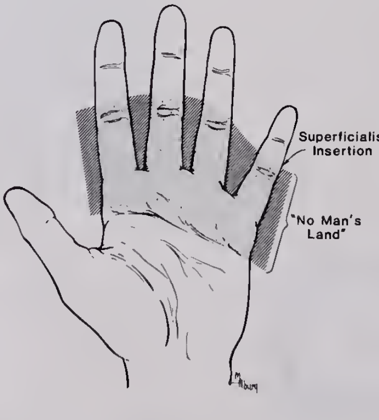

**FIGURE 1 – "No-man's land," or Zone 2 of the hand.**

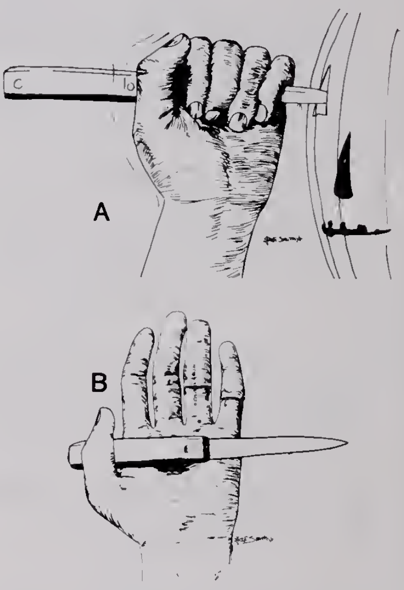

**FIGURE 2 – This diagram illustrates the mechanism of injury. The patient's slippery hand slides down the knife blade, lacerating the flexor tendon(s), and in most cases one or both of the digital nerves.**

## Operative Procedures

All tendons were repaired using a Bunnell or Kessler type repair using nonabsorbable suture and by oversewing the tendon junctions. In some cases, the lacerated superficialis tendon was resected at the surgeon's discretion. Tendons were grafted as a one-stage procedure using the palmaris longus.

Lacerated digital nerves were repaired using an epineurial repair.

Postoperative immobilizations involved either a dynamic rubber band splint or a static splint, usually followed by an extension block splint in three weeks.

## Results

The results of each case in this study were evaluated by the criteria established by Kleinert et al.[8], modified from Boyes and White (Table I). Table II describes the location of injury, type of repair, method of splinting, associated nerve injury, and final results. Table III gives a summary of all the injured digits as evaluated by the Kleinert criteria.

TABLE 1

### RESULTS – Kleinert's Criteria

(Modified from Boyes and White)

| | |
|---|---|
| **Excellent** | – able to flex to within one cm of distal palmar crease<br>– less than 15 degrees extension loss |
| **Good** | – able to flex to within 1.5 cm of distal palmar crease<br>– less than 30 degrees extension loss |
| **Fair** | – able to flex to within 2–3 cm of distal palmar crease<br>– 30–50 degrees extension loss |
| **Poor** | – unable to flex within 3 cm of distal palmar crease<br>– greater than 50 degrees extension loss |

TABLE 2

### RESULTS

| No. | AGE | SEX | FINGER | TENDON(s) LACERATED | NERVE LACERATION | DELAY | TYPE REPAIR | ACTIVE ROM | DISTANCE TO DPC |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 9 | F | R 5th | FDS + FDP | No | 1 Mth | Resection FDS<br>1° Repair FDP | MCP 0/90<br>PIP 0/90<br>DIP -15/70 | 0 cm |
| 2 | 9 | F | R 4th & 5th | FDS + FDP | Yes | 1 Wk | 1° Repair FDS + FDP | 4th 5th<br>0/90 0/90<br>0/90 0/90<br>0/50 0/50 | 4th 5th<br>1 cm 1 cm |
| 3 | 11 | M | L 5th | FDS + FDP | No | 2 Wks | 1° Repair FDP + FDS | 0/90<br>0/110<br>0/30 | 1 cm |
| 4 | 12 | M | R 4th | FDP | Yes | 6 Wks | Palmaris Tendon Graft | 4th 5th<br>0/90 0/90<br>0/90 0/90<br>0/40 0/30 | 4th 5th<br>2.5cm 3.5cm |
| 5 | 9 | F | R 5th | FDS + FDP | Yes | 3 Wks | 1° Repair FDP | 0/90<br>0/90<br>0/20 | 22 mm |
| 6 | 10 | M | R 5th | FDS + FDP | No | 1 Mth | 1° Repair FDP | 0/100<br>0/100<br>0/60 | .5 cm |
| 7 | 7 | M | R 5th | FDS + FDP | No | 1 Mth | 1° Repair FDP & Resection FDS | 0/95<br>0/95<br>0/45 | .3 cm |
| 8 | 7 | F | R 5th | FDP + Partial FDS | Yes | 2 Wks | 1° Repair FDP & FDS | 0/100<br>0/100 | 1 cm |
| 9 | 9 | F | R Index | FDP + Partial FDS | Yes | 2 Wks | 1° Repair FDP & Resection FDS | 0/100<br>0/100<br>0/30 | 0/0 |
| 10 | 8 | M | R 5th | FDS + FDP | No | 2 Wks | 1° Repair FDP, Resection FDS | 0/90<br>-15/70<br>-5/10 | 2 cm |
| 11 | 12 | M | R 5th | FDS + FDP | No | 1 Mth | Palmaris Tendon Graft | 0/90<br>-35/90<br>0/10 | 4 cm |
| 12 | 14 | F | R 5th | FDS + FDP | No | 1 Mth | 1° Repair FDP, Resection FDS | 0/90<br>0/90<br>0/60 | 0 cm |

FDS = flexor digitorum superficialis
FDP = flexor digitorum profundus

There was only one case of immediate primary repair. The majority of the cases were repaired in a delayed manner at an average of 2.8 week post injury, either at the surgeon's discretion or because of a delay in diagnosis. Two cases were discovered more than a month after injury, and these were repaired with tendon grafts.

The one case of immediate primary repair involved a laceration of both tendons and had an excellent result. The majority of the cases involved lacerations of both tendons with a delayed repair of the profundus with or without superficialis excision. The majority of these obtained an excellent result. The two cases in the delayed repair group with both tendons completely lacerated and then repaired were in the excellent category. The delayed group with laceration and repair of the profundus only included one excellent and one good result. Three of the patients underwent delayed grafting procedures: one after a failed primary repair and two as the initial procedure. Two of the three in this group were in the fair/poor category, but one obtained an excellent result.

The total number of degrees of flexion did not correlate exactly with the distance that the finger tip could come toward the distal palmar crease when individual cases were compared to each other. Perhaps this occurred because of the variations in hand size in this population.

## Complications

There were two complications noted in this group of patients. One involved the disruption of a repair when the patient removed his cast. This was later successfully treated with a tendon graft. The other patient required tenolysis to achieve adequate range of motion.

## Discussion

This study does not have a large enough number of patients to draw statistically significant results. However, the results do show that a delay in repair of up to one month can be accepted before repairing a lacerated Zone 2 flexor tendon(s)—of either one or two tendons—in a seven- through 12-year-old child. This concurs with the findings of other surgeons who have repaired flexor tendons in children in this age group.[5,6] However, this differs from Green and Niebauer's[6] results in an adult population. They reported a 50% failure rate due to unacceptable stiffness when the repair of both flexor tendons was delayed three weeks, but the delay made no difference if only one tendon was lacerated. Apparently the reparative process in children does not lead to the stiffness that is seen in adults.

The importance of repairing the superficialis tendon was also studied in this group of patients. Theoretically, this is an important structure, because the blood supply to the midportion of the profundus comes through its own long vincula, which arises from the superficialis tendon. This source of vascularity is obviously absent if the entire superficialis tendon was excised[4]. However, in this group of children there was no apparent difference in function if the superficialis tendon was excised or repaired or left in its lacerated condition when both the superficialis and profundus tendons are lacerated. This concurs with other surgeons who reported good to excellent results with the routine excision of the superficialis when both tendons are lacerated in a pediatric population.[5,6,10] Apparently, the tendons in children maintain an adequate blood supply even after superficialis excision, perhaps because the distances between the vinculi are shorter and the vascularity per area of tendon is better.[11]

Two of the patients in this group underwent delayed grafting procedures at the surgeon's discretion when the tendon lacerations were discovered after one month from the time of injury. These children ultimately had the most difficulty in touching the distal palmar crease and thus had the poorest results. One of the patients required a two-stage flexor tendon graft after the initial repair ruptured when he prematurely removed his splint. In this case, the delayed tendon graft did very well. No conclusions can be drawn from this small subgroup of three patients, but it does appear that a tendon graft can lead to more stiffness in the fingers and should be reserved for experienced surgeons as a delayed procedure. The indications for tendon grafting would be a failed primary repair, severe crush injury[12], or possibly a delay in diagnosis of greater than one month. Otherwise, a primary repair is indicated.

Five of the patients in this study sustained a laceration of the digital nerve. These were all repaired under magnification with an epineurial repair and regained two-point discrimination of less than five mm—an excellent result.

The type of postoperative splint did not seem to make a significant difference in the ultimate results in this series. However, we would recommend dynamic rubber band splinting as an excellent method to decrease the problem of tendon adherence. We feel that children in this age group can cooperate to provide the active extension needed against the extension block splint used for this type of "passive motion program."

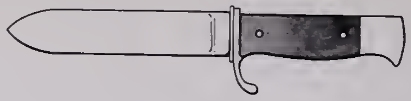

**FIGURE 3 – Note the guard on the knife handle, which would prevent this injury.**

In conclusion, it should be mentioned that if a proper knife handle guard is used, this accident would be preventable, because the person's fingers could not slide down the knife blade (Figure 3). Furthermore, the practitioner should be alert to recognize the presence of flexor tendon injuries with lacerations to the volar aspect of the fingers. In this study, 25% of the injuries were missed on first examination. Repair or resection of the flexor digitorum superficialis did not influence the results.

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**TABLE 3**

**RESULTS**

| | Excellent | Good | Fair | Poor |
|---|---|---|---|---|
| PRIMARY REPAIR (less than one week) | | | | |
| *FDS + FDP Repaired | (2) | | | |
| DELAYED REPAIR (greater than one week) | | | | |
| FDS + FDP Repaired | (2) | | | |
| FDS Resected | (4) | (1) | | |
| FDP Repaired | (1) | (1) | | |
| TENDON GRAFTING | (1) | | (1) | (2) |

* FDP = flexor digitorum profundus
FDS = flexor digitorum superficialis

† Two of the patients had two digits involved and one of the patients underwent a grafting procedure following a primary repair. Therefore there are fifteen fingers illustrated when the total population was twelve.

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# Minnesota's Physician Reporting Law:

## When am I My Brother's or Sister's Keeper?

**Part II**

*Robert Eelkema, J.D., and Anne L. Schlueter, J.D.*

**In Part I of this two-part series, Eelkema and Schlueter presented a case study that illuminates Minnesota's Physician Reporting Law in action, discussed practical applications, and answered common questions regarding the law. Part II addresses the Board of Medical Examiners' (BME) complaint investigation and discipline procedures and describes 1988 amendments to the Medical Practice Act.**

**The demands on a physician's time are generally such that he or she is hard-pressed to keep abreast of changes in Minnesota's statutes. As past actions have demonstrated, however, the BME supports the axiom "ignorance of the law is no excuse." Because of the severity of disciplinary actions that can result from failure to comply with the law, physicians can ill afford to be uninformed. This article discusses the general composition and procedures of the BME when acting on complaints. It also discusses the reporting requirements and appeals procedures set forth in the physicians' reporting statute and Minnesota law (Minnesota Statutes 147.01). Finally, it addresses the 1988 amendments to the Medical Practice Act.**

### Structure of the BME

Members of the BME are appointed by the governor to no more than two consecutive four-year terms. There are seven members with M.D. degrees, one with a D.O. degree, and three nonphysician public members. One of the public members must represent a mental health and consumer advocacy organization. The medical association may make recommendations for appointments. The governor may appoint from the list of recommendations or from among other qualified candidates.

All of the current physician members are members of the MMA, they are Melvin Sigel, M.D.; David Gilbertson, D.O.; Jack Bert, M.D.; Cassius M. Ellis, III, M.D.; George B. Martin, Jr., M.D.; Clyde Olson,.M.D.; Frank Quattlebaum, M.D.; and Richard B. Tompkins, M.D. The public members are Stephen Kelley, J.D.; Meredith Hart; and Mary Hartmann.

### Mandatory Reporting

1985 revisions to the Medical Practice Act set out requirements for physicians and all licensed health care providers, as well as hospitals, medical societies, and professional liability insurers, requiring reporting of certain information concerning physicians to the board (Minnesota Statutes 147.111).

► Physicians and other health care providers must report personal knowledge of any physician conduct that the reporter reasonably believes may constitute grounds for disciplinary action by the board.

The material in this article is meant as a general educational discussion only, and should not be viewed or relied upon as a substitute for sound legal advice. Because determining a physician's course of action under the reporting statute frequently is "fact-specific," you are urged to seek competent legal counsel for specific questions.

The physician-patient privilege provides a limited exception to this reporting.

► Hospitals and other entities that perform credentialing must report to the board any action taken to restrict a physician's privilege to treat patients. Resignation while an action is pending must also be reported.

► Discipline for activities or conduct by a medical society that would be grounds for board discipline must be reported.

► Professional liability insurers must report the names of physicians against whom professional liability settlements have been made or against whom judgments have been entered.

► Physicians are required to report themselves if their activity or conduct would require another physician to report.

These mandatory reporting provisions have, in part, been responsible for the increasing number of reports received by the board. The BME currently receives from 65 to 80 complaints per month. Of the total number of complaints and reports received in a year, approximately eight percent will ultimately result in an order for discipline.

### The Disciplinary Process

Complaint review by the board is initiated by the receipt of a written complaint in the board office. The board will send a packet of information in response to telephone or mail requests. The packet sent by the board includes the complaint forms, an information release, a brochure explaining the complaint procedure, and a self-addressed return envelope. Investigations may also result from the receipt of reports from the various "mandated reporters" noted above.

Each complaint received is acknowledged by mail, matched with the original request for complaint forms (if applicable), and entered into the board's computer system. A file is created for each complaint and includes a copy of the physician's biography card. This card includes information on the physician's education and training.

Using a prepared form, BME staff will summarize the complaint, make a recommendation, and forward a copy of the entire complaint file to each of the members of the Discipline Committee. The board's Discipline Committee comprises two physician members and one public member. Board staff may advise complainants of other means of redress for complaints clearly outside the jurisdiction of the board.

### The Investigation Process

Complaints and reports that are within the jurisdiction of the board may be sent directly to the Discipline Committee for their review and consideration, or may be referred for investigation.

The Health Division of the State Attorney General's Office furnishes the investigative staff for the Board of Medical Examiners as well as the other health professional licensing boards (the boards of Nursing, Psychology, Optometry, Pharmacy, Chiropractic, Dentistry, Nursing Home Administrators, Podiatry, and Veterinary Medicine). In a typical investigation, a representative of the attorney general, acting on behalf of the BME, may contact the complainant to discuss the complaint. The investigator then may contact the physician and attempt to learn more about the physician's practice style. The results of the attorney general investigation, as well as the investigator's comments, will be sent to the Discipline Committee.

Preliminary information regarding complaints or reports may also be gathered by board staff. This typically involves sending to the physician a copy of a complaint along with a letter from BME staff asking the physician to respond to the concerns in the complaint and/or questions posed in the board's letter. Failure to comply with any stage of a board investigation is in itself grounds for discipline.

Complaints and reports involving the exercise of medical judgment or discretion will be reviewed by one of the physician members of the committee. The physician member may determine, based upon personal medical knowledge, whether a problem exists that is worthy of calling the physician in for an appearance before the Discipline Committee. The physician member is also free to seek, within the limits of required confidentiality, the opinion of other physicians within the same specialty as the physician who has been reported. For a complaint or report to be dismissed, it must have been independently reviewed by two board members. Further, state law has been interpreted as requiring an attorney general investigation when two board members recommend dismissal of a complaint within the board's jurisdiction.

The Discipline Committee may determine that a physician should be called in for a conference. The Notice of Conference will briefly describe the complaint or report that has been received, and will invite the physician to attend an upcoming meeting of the Discipline Committee to discuss the case. Even though an attorney general investigation may have taken place, it has been reported that the Notice of Conference may be the physician's first indication that a complaint or report has been made to the board. This may occur where the nature of the case is such that contact with the physician would clearly identify a complainant, in contravention of confidentiality laws, or might result in some other activity that could interfere with the complete review of the case. The discipline conference will be held before the three-member Discipline Committee. The board will be represented by an attorney general; the physician may retain private counsel. The goal of the discipline conference is to either bring sufficient explanatory material forward to demonstrate to the committee's satisfaction that no discipline is warranted, or to lay the groundwork for some agreed-upon discipline. Agreed-upon discipline will be framed in a stipulation. A stipulation typically will include the following: the key facts of the case; the grounds for discipline or portion of the Medical Practice Act that the board views has been violated; the fact that the physician has been represented by counsel or, having been informed of his or her right to be represented, has declined; that the stipulation, when signed, is subject to approval by the full board; and the action the board intends to take.

**The BME currently receives from 65 to 80 complaints per month. Of the total number of complaints and reports received in a year, approximately eight percent will ultimately result in an order for discipline.**

It has been emphasized by BME members that the conference and stipulation system currently used by the board is flexible. Physicians, through the facts and information brought to the Discipline Committee, can have a degree of input into the final stipulation, or may be able to show that no discipline is warranted.

If the physician agrees to sign the proposed stipulation, that signed stipulation will be presented to the full board for its acceptance, rejection, or proposed modification. It has been reported that the full board has rarely, if ever, rejected a stipulation between a physician and the Discipline Com-

*continued*

ARMY RESERVE MEDICAL PROFILE NO. 5

ROSALYN P. STERLING-SCOTT, M.D.

Assistant Professor of Surgery, UCLA School of Medicine and Drew University of Medicine and Science, Los Angeles

Associate Surgeon, Department of Cardiovascular & Thoracic Surgery, Centinela Hospital Medical Center, Los Angeles

Major, U.S. Army Reserve

EDUCATION Rensselaer Polytechnic Institute, Troy, NY, B.S. Chemistry; NYU School of Medicine, New York, M.D.

RESIDENCY Boston University School of Medicine (Cardiovascular); Saint Vincent's and St. Claire's Hospitals, New York City (General Surgery)

FELLOWSHIP First Mary A. Fraley Cardiovascular Surgical Research Fellow at the Texas Heart Institute, Houston

OUTSTANDING ACHIEVEMENTS Author of numerous articles, including "Indications for Early Bypass Grafting Following Intracoronary Streptokinase"; author of "The Female Surgeon—Dawn of a New Era," chapter in *A Century of Black Surgeons—The U.S.A. Experience*; Board of Directors, Association of Black Cardiologists; Secretary, Drew Society

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For respiratory tract infections due to susceptible strains of indicated organisms.

**Summary.**
**Consult the package literature for prescribing information.**

**Indication:** Lower respiratory infections, including pneumonia, caused by *Streptococcus pneumoniae, Haemophilus influenzae*, and *Streptococcus pyogenes* (group A β-hemolytic streptococci).
**Contraindication:** Known allergy to cephalosporins
**Warnings:** CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics It must be considered in differential diagnosis of antibiotic-associated diarrhea Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

**Precautions:**
- Discontinue Ceclor in the event of allergic reactions to it
- Prolonged use may result in overgrowth of nonsusceptible organisms
- Positive direct Coombs' tests have been reported during treatment with cephalosporins
- Ceclor should be administered with caution in the presence of markedly impaired renal function Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old Ceclor penetrates mother's milk Exercise caution in prescribing for these patients

**Adverse Reactions:** (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include
- Gastrointestinal (mostly diarrhea). 2 5%
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, and serum-sickness-like reactions that have included erythema multiforme [rarely, Stevens-Johnson syndrome] and toxic epidermal necrolysis or the above skin manifestations accompanied by arthritis/arthralgia, and frequently, fever): 1 5%, usually subside within a few days after cessation of therapy Serum-sickness-like reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertonia, dizziness, and somnolence have been reported.
- Other. eosinophilia, 2%; genital pruritus or vaginitis, less than 1%, and, rarely, thrombocytopenia

Abnormalities in laboratory results of uncertain etiology
- Slight elevations in hepatic enzymes
- Transient fluctuations in leukocyte count (especially in infants and children).
- Abnormal urinalysis, elevations in BUN or serum creatinine
- Positive direct Coombs' test.
- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest® tablets but not with Tes-Tape® (glucose enzymatic test strip, Lilly) [061088L]

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mittee. Once accepted by the full board, the stipulation and order will be transmitted to the physician and his or her attorney, if applicable.

### Contested Case Proceeding

If the physician is not in agreement with the stipulation and order for discipline proposed by the Discipline Committee, he or she may request a contested case hearing. The perceived flexibility of the conference and stipulation process is contrasted against the prosecutorial nature of its alternative: the Contested Case Proceeding.

The Contested Case Proceeding is an administrative hearing conducted under the law and rules governing the State Office Administrative Hearings. A contested case is essentially a trial presided over by an administrative law judge who is assigned by the Office of Administrative Hearings to hear the case and report to the board findings of fact, conclusions of law, and a recommendation for disposition of the case.

The contested case is conducted under an extensive set of rules similar to those covering a court trial. An attorney from the Attorney General's Office will represent the board. The physician the board proposes to discipline may be self-represented or may retain counsel. Just as in a civil trial, each contending party has an opportunity to present its case. This may be done through the production of documents, submission of learned treatises, or examination by expert witnesses.

Upon completion of the presentation of evidence and the submission of memoranda by the parties, the administrative law judge will issue a report. The report will include findings of fact, conclusions of law, and a recommendation as to whether the board should take some disciplinary action, and, if so, what type of action would be appropriate.

The board is not bound by the recommendation of the Administrative Law Judge. Upon review by the full board, exclusive of those members who served on the Discipline Committee, the board will decide to accept, reject, or modify the recommendation of the administrative law judge.

Once the board has taken final action in a contested case, state law provides for appeal of that decision to the State Court of Appeals. The Court of Appeals will review the case based upon the record created at the contested case proceeding, and may direct the board to conduct further fact-finding. The decision of the Court of Appeals will be based upon a review performed in accordance with specific guidelines set out in the administrative procedures law.

**If the physician is not in agreement with the stipulation and order for discipline proposed by the Discipline Committee, he or she may request a contested case hearing.**

### Types of Discipline Available to the Board

► **Actions against the License.** The board may, once it has determined that a physician has violated a provision of the Medical Practice Act, order the revocation or suspension of a license. The board may also impose limitations or conditions on a physician's practice. These may include limitation of the practice to specific settings or designated specialties, or practice under supervision, or the condition that continuing education in certain areas be obtained.

► **Civil Penalty Authority.** Added to the board's discipline options in 1985 was authority to assess civil monetary penalties of up to $10,000 for each violation of a board rule or law. This authority has been exercised in such a way as to either recoup board expenses in pursuing an action, or to deprive the physician of gain obtained through practices that were in violation of board law or rule.

► **Order to Provide Unremunerated Service.** The board was also given, and has exercised, the authority to order that a physician provide unremunerated service at a site designated by the board.

### 1988 Amendments to the Medical Practice Act

The key 1988 changes are: the clarification of what kinds of information must be reported to the BME by organizations that have taken action against a physician's privileges; and, modifications to the statutory definition of fee splitting.

### Review Organization Reporting

The legislature clarified what must be contained in a report from a hospital, clinic, or health care institution that has taken action through any committee to revoke, suspend, restrict, or condition physicians' privilege to practice or treat patients.

► **Review of BME Endorsed Legislative Initiatives.** Going into the 1988 legislative session, the BME had identified as a problem the lack of information contained in reports submitted by hospitals and other entities acting as review organizations when reporting that an action had been taken. The board proposed in its 1988 legislative initiatives that review organizations have the following *additional* duties:

1. to report to the board findings or conclusions with regard to the conduct of a physician if such conduct may be grounds for disciplinary action under the Medical Practice Act; and
2. to disclose, upon request of the Executive Director of the Board of Medical Examiners or the Attorney General's Office, any and all data and information acquired by the review organization and records of proceedings regarding the physician.

The proposal provided that the data or information could be used in a contested case or other administrative proceeding commenced by the board, but that the records of proceedings of a review organization could not be introduced as evidence or disclosed to the physician. The data, information, and reports were to be maintained as confidential. The MMA, the Minnesota Hospital Association, and several specialty organizations received numerous calls expressing concern about this proposal during the legislative session. Additionally, it was reported that members of the BME were contacted directly and apprised of physician concerns.

► **Enacted 1988 Amendments.** The Minnesota Legislature enacted changes to the Minnesota Medical Practice Act that do not include the extensive access to peer review records that had been requested by the BME.

Instead, the legislative enactment provides that each report made by a hospital, clinic, or health care institution must state the nature of the action taken and state in detail the reasons for the action, as well as identify the specific patient medical records upon which the action was based. It is hoped that this type of information will help provide to the BME a more complete picture of the basis for any action taken by a hospital or clinic, yet continue to preserve the confidentiality and effectiveness of the peer review process.

## Fee Splitting

The statutory definition of fee splitting was revised. Formerly, it stated conduct that was prohibited (and therefore grounds for disciplinary action), included splitting fees, "or promising to pay a portion of a fee or commission, or accepting a rebate." The new definition of fee splitting states as follows:

> Fee splitting, including without limitation:
>
> Paying, offering to pay, receiving or agreeing to receive a commission, rebate, or remuneration, directly or indirectly, primarily for the referral of patients or the prescription of drugs or devices;
>
> Dividing fees with another physician or a professional corporation, unless the division is in proportion to the services provided and the responsibility assumed by each professional, and the physician has disclosed the terms of the division;
>
> Referring a patient to any health care provider as defined in Section 144.335, in which the referring physician has a significant financial interest unless the physician has disclosed the physician's own financial interest; and
>
> Dispensing for profit any drug or device, unless the physician has disclosed the physician's own profit interest. The physician must make the disclosures required in this clause in advance and in writing to the patient, and must include in the disclosure a statement that the patient is free to choose a different health care provider. This clause does not apply to the distribution of revenues from a partnership, group practice, nonprofit corporation, or professional corporation to its partners, shareholders, members, or employees if the revenues consist only of fees for services performed by the physician or under a physician's direct supervision, or to the division or distribution of prepaid or capitated health care premiums, or fee-for-service withhold amounts paid under contracts established under other state law.

The first prohibition of fee splitting is a capsule restatement of the Medicare and Medicaid fraud and abuse laws. The second item is designed to address office sharing situations and arrangements made for the convenience of patients.

The third section of the fee splitting definition is designed to address physician ownership in medical ventures and allow the BME to assure that such business arrangements will not result in exploitation of patients. This measure and the provision regarding dispensing are intended to assure that patients are provided adequate information upon which their selection for providers of medical services may be based.

The new law provides that required disclosures must be made in advance and in writing to patients. The board has not further specified the precise mode or modes that may be acceptable under this requirement. Discussions on these points have included the possibility of posted signs containing the necessary information as an acceptable means, although no clear decisions have been made.

The distribution of revenues from partnerships and group practices are exempt where the revenues arise only from compensation for services performed by physicians (or under a physician's direct supervision), or the distribution of prepaid or capitated health care premiums or fee-for-service withhold amounts.

**The new law [on fee splitting] provides that required disclosures must be made in advance and in writing to patients.**

## Conclusion

These articles have attempted to clarify BME procedures and provide guidance to physicians grappling with the reporting laws. The 1988 Amendments emphasize disclosure of physician activities both to the regulatory agency and to patients. Further definition of key terms like "profit interest," "financial interest," "disclosure," and "personal knowledge" may be developed through rule making. While several issues remain uncertain, the BME may likely respond that you are always your brother's or sister's keeper when you have personal knowledge of an impairment or other violation of the Medical Practice Act.

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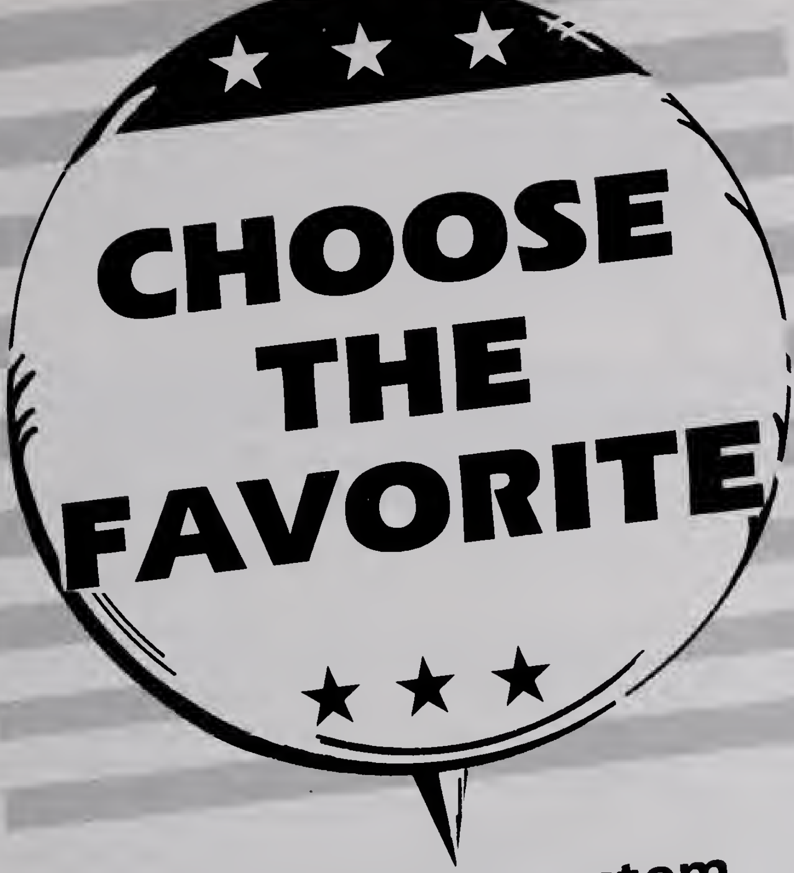

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## **Hitchcock** from page 584

Honolulu. After that it was back to the United States where I left the military. I was separated in April of 1947.

REECE: *When did Dr. Owen Wangensteen enter your life. He had a profound influence on you. When did you first meet?*

HITCHCOCK: In medical school. My chief was an extremely dynamic man and, without doubt, my role model. I had three real prominent role models in medical school. One was Dr. Wangensteen in surgery. The other was Dr. Cecil Watson in medicine. The third was Dr. Alexis T. Bell in pathology. When I think of those three men, I almost shed a tear. They had a profound affect on me and my career. When I returned from the military, I went to see Dr. Wangensteen. I walked in on a Friday afternoon. He had once said if I wanted to be a surgeon to come and see him. I said I would like to give it a try. He told me I could start Monday morning.

By that fall, with the dynamic things he was doing and the way he stimulated all of us young men, I had two grants from Washington, I had a colony of strain specific mice, I was working on cancer projects, and I was on my way to a surgical research career.

A little later on, I did a project Dr. Wangensteen had stimulated me to do, which was an attempt to try to figure out what happened with the Johannes Fibiger study of *Gongylonema neoplasticum,* which is a spiroptera worm which was supposed to have caused cancer in the stomach of rats. So I reduplicated all of that work—an enormous project—and got some of the original slides from Denmark and found the parasite, *Gongylonema neoplasticum,* in the United States. I was the first one to ever find it here.

Dr. Alexis Bell was my consultant in pathology on that project, and I was the principal author, but he was with me on that paper. To my amazement, it was classified by the National Institutes of Health as a classic. They provided me with two thousand free reprints. For me it was just fabulous and a gratifying piece of work. Bell was my consultant, and he helped me make the paper what it was. Fibiger was given the Nobel prize in Medicine in 1926 for his discovery of the spiroptera carcinoma. Perhaps part of the excitement of our study was the demonstration that this was not a true metastasizing cancer. Vitamin "A" deficiency produced similar lesions, as we showed.

**I had three real prominent role models in medical school. One was Dr. Wangensteen in surgery. The other was Dr. Cecil Watson in medicine. The third was Dr. Alexis T. Bell in pathology. When I think of those three men I almost shed a tear.**

REECE: *All of your three mentors led you down the pathway of investigation?*

HITCHCOCK: Yes. The last thing I intended, when I was in medical school, was to end up being a professor. I was planning to be a practicing physician and to work in a smaller community. It just didn't work out that way. Before I finished my residency, Dr. Wangensteen appointed me to run the Cancer Detection Research Center. A few years later, he literally pushed me to come to the old Minneapolis General Hospital. He always supported me philosophically and emotionally. I went to him one time and asked him to help me get some money. He said: "Hitch, I'll help you in any other way I can but money; I can't help you with money."

REECE: *You must have had doubts in your mind when you went from the research centers at the University to the General Hospital, which had no research facilities. What was your thinking? It sounds risky to me.*

HITCHCOCK: My thinking was, "If we're going to be there, we're going to have to find our money and build our own laboratories." That's why I went to the chief and asked for more money. When he said he couldn't help with the money part, I went out and got my own money.

REECE: *You come from an industrial family—Hitchcock Industries—which deals with brass, aluminium, and magnesium. Through being in an industrial family, you knew many of the wealthy businessmen and the philanthropists in town. Did you exercise your relationship with them to raise money?*

HITCHCOCK: Yes, and they were really wonderful. It makes me feel good inside to think of the hundreds of people, I suppose it's in the thousands now, that have been helped by those people who came forward 25 to 30 years ago. They put up about four and a half million dollars. That money supported the entire kidney program in its early days and helped build the hyperbaric chamber. It was an enormous operation, and I'll always be grateful to those generous men and women.

REECE: *When you needed them, they were there. That must have been exciting. You asked them to give, and they gave without having to run through a bureaucracy to justify what you wanted.*

HITCHCOCK: There was no bureaucracy. They were always interested, though, in what we were doing. We used to have a yearly scientific program to show our benefactors what we were doing in the line of transplant work—kidney transplants particularly—in dialysis, and the hyperbaric chamber work. They loved our show, and they felt very close to us.

REECE: *So they felt that they were insiders, pioneers, and partners in the research?*

HITCHCOCK: Absolutely. That was not unique with me. This is what Dr. Wangensteen did. I picked up that technique from him. He was always good about showing the people that helped him in his work. He demonstrated to them what their benevolence was doing in helping to advance science.

REECE: *Let's explore a few of the research projects you initiated and with which the benefactors helped you. One dealt with transplant work and baboons in Kenya. Tell us that story.*

HITCHCOCK: We had done a good deal of work in the late 1950s with kidney transplants in dogs. The work was good. We were preserving kidneys and keeping them cold outside the body for long periods of time and putting them back in. They would function. We, and others in the world, were proving that transplants were feasible.

But the thought kept arising in our minds: "Is this going to work as well at the human level, or the primate level?" So I contacted a colleague at the Institutes of Health to find out where I could go in the world and work with large, subhuman primates, such as large baboons.

He turned me over to the Southwest Foundation for Research and Education in San Antonio, Texas, which was under the supervision of Dr. Nicholas Werthison. He was a very well-known endocrinologist running a brilliant laboratory studying atherosclerosis in baboons. He had developed a laboratory out in the bush of Kenya at DaraJani, at the confluence of the Athi and Kibwasi Rivers. So in 1960, I sent Dr. Joseph Kiser and Dr. Robert Telander to work with baboons in those laboratories. In the spring of 1961, I took Dr. John Haglin and Dr. Claire Strobel and Dr. Edward Seljeskog to Africa. We four went over and worked in the Kenya laboratories for two months and did a lot of work on lung transplants, kidney transplants, and atherosclerosis of coronary vessels.

REECE: *And then you brought a colony of baboons to Minneapolis?*

HITCHCOCK: Yes. The work was obviously good and important. We felt we needed to have the baboons here, so we turned part of our dog lab over to be a baboon lab. At given moments some years later, we had as many as 65 of these very large baboons from Kenya there in the laboratory.

**When you tell people that you've got a person that's in dire need, and you need some help, and they are in a position to help you, they will respond.**

REECE: *How did the hyperbaric chamber relate to this transplant work?*

HITCHCOCK: This all came to a head in the late 1950s and early 1960s. So many things were happening in the world, and it was a marvelous time in medicine. Dr. Eta Boerema in Amsterdam had become impressed with the value of using hyperbaric oxygen, (that is putting an animal or a person in a chamber and having them breathe 100 percent oxygen under pressure so that they literally became saturated with oxygen), as a method of helping to control anaerobic infections. It was a brilliant piece of work, and he and Dr. Brummelcamp and Dr. Mienie had published excellent papers on this.

We saw not only an opportunity to use hyperbaric for control of anaerobic infections, but also, perhaps, to use it as an adjunct in helping us get good organs for transplant from cadavers and to do open heart surgery. We did not in those days have heart-lung machines. I got money from the federal government. Mr. John B. Hawley, Jr. of Northern Pump Company gave me almost a half million for the chamber, and Dr. John Haglin and I built the hyperbaric chambers here. We had them engineered in Chicago and installed here. We started harvesting organs for transplant in the chamber and we started doing open heart surgery in there. Very shortly after, the pump oxygenators were developed. Dr. Richard Dewall developed the first successful bubble oxygenator.

Then local and federal laws began to set the stage for taking organs from what we would later call "beating-heart cadavers." That's where, by law and regulation, neurosurgeons and neurologists can declare that a given body on respirators is "brain dead." With family consent, organs can be taken in a regular operating room. The pressure was off, so we didn't need the hyperbaric chambers any more for preserving transplant organs. So we have used our chambers over the years in a very extensive program of treating gas gangrene, clostridia infections. Patients come from as far away as Montana, Wisconsin, Iowa, Nebraska. We've treated about 350 patients with this disease over the years. Plus, we've used it for patients with carbon monoxide poisoning and for patients with other kinds of infections following radiation therapy for cancer. It's been quite active and has been a very definite adjunct and positive factor in the community.

REECE: *When did you do your first human transplant?*

HITCHCOCK: In February of 1963 at the old General Hospital.

REECE: *When did you get into dialysis? Was that related to your transplant work?*

HITCHCOCK: Yes. That was at the same time. The second patient I did rejected the kidney. He was 15 years old. We couldn't see him die, because he just kept going on, as patients without kidneys will. They live for some time. So I contacted Dr. Belding Scribner in Seattle who was the originator of the chronic hemodialysis approach, because he had developed the shunts that you place in the arm to hook up to. He also had a dialysis machine available. Within a week, with funding coming from the Atherton Bean family of the international milling group, we were able to set up dialysis to save that young man. Dialysis has been going on ever since.

REECE: *How did you get that massive piece of dialysis equipment into Minneapolis from Seattle in such a short time to save his life?*

HITCHCOCK: By railroad. We had it put in the mail car of the Empire Builder and it got here overnight. It was wonderful. This brings up something. When you tell people—I don't care whether they work for the railroads or the airlines—that you've got a person that's in dire need, and you need some help, and they are in a position to help you, they will respond. We told them this young man needed this machine. "No problem," the railroad people said. Put the machine in there, and people in the mail car will take care of it." It was great. In those days air transport for things like this was not available.

REECE: *Let me try to recapture what was going on. You had your baboon colonies, you were doing your work with hyperbaric chamber, you had transplanted your first kidney to a human, and you had launched your dialysis efforts; all of this in a period from 1960 to 1964. How did you integrate this? How did you gather the money? What was the organizational structure?*

HITCHCOCK: The organizational structure was the foundation. It was a small organization then, and I was president. It had a board of directors, but we just worked hard as ideas came up. In those days, things were different than now. You didn't have so many different agencies demanding that everything had to be reviewed and go before committees. You had an idea, and you did it. So we worked hard and we moved on to bigger and bigger ideas and projects.

REECE: *So you had the freedom and the spirit, and you let the creative juices flow?*

HITCHCOCK: Exactly. Nowadays, as you know, any research project that involves people has to be enormously documented, in great detail; has to go before special committees; then gets passed on. And the committee function is monitored by the government. Everything is controlled now, very tightly. I'm not saying that's bad, but we had a freedom to act back in the 50s and 60s, and on even to the 70s. That freedom was absolutely stimulating.

**In those days, things were different than now. You didn't have so many different agencies demanding that everything had to be reviewed and go before committees. You had an idea, and you did it.**

REECE: *And so the Minneapolis Medical Research Foundation began to grow rapidly?*

HITCHCOCK: Yes. And one of the people who made it grow so big was the young internist, Dr. Fred Shapiro. He came into our program because of his great interest in kidney disease, and I turned the dialysis operation over to him in 1966. He began building it as a program and then the government got aboard. They began to develop the end-stage renal disease program, and government money began to flow to help support this big effort. Fred Shapiro built this into what is now the Regional Kidney Disease Program. His internal medical nephrologist colleagues now run the kidney program under the auspices of the Minneapolis Medical Research Foundation. The Foundation is big. We now have 620 employees in the Foundation, a $26 million a year operation. Twenty-one million of it is for kidney disease and about $5 million of it is for research, with monies coming from government, industry, and various research organizations.

REECE: *How does the Hennepin Faculty Associates, an organization formed about four years ago, play into all of this?*

HITCHCOCK: That's a completely separate corporation and is a clinical operation to manage the clinical work of the Hennepin County Medical Center. MMRF, the research foundation, is separate. But now, HFA provides, from its earnings, a significant amount of research dollars for the Foundation to help young investigators.

REECE: *Having gone through this stimulating career and having been a pioneering force in forming these organizations such as the Minneapolis Medical Research Foundation and Hennepin County Medical Center and the Hennepin Faculty Associates, how do you view the current chaos and uncertainty in medicine?*

HITCHCOCK: We have enormous problems. We all recognize that. We obviously need to have a strong financial base to support this high technology medicine and surgery that we provide. There's no doubt about it. It costs an enormous amount of money nowadays to take care of people in the manner that we do.

The problem is beginning to separate out, and we're beginning to see it more clearly. For example, there is ordinary medicine—just things that happen to us on a daily basis that are not that expensive. They can be handled in very routine ways, in the hospital and in the emergency room. HMO type organizations can handle those problems. But where we're getting into trouble is in this catastrophic area. With catastrophic illness, for example, people in their 70s or 80s who have a very bad cancer or debilitating disease pose a special problem. You can't turn them out and turn off the technology. It's going to cost hundreds and hundreds of thousands of dollars a year just to maintain them. But, even worse than that are the children—the little kids who are born with congenital defects or have heart problems that can not be adequately corrected. We operate on them, but things don't always turn out as successfully as we like. These kids are going to live for many years. They will require as much as three-quarters of a million or a million dollars a year to maintain. How are we going to handle this?

I think we're going to have to expand our federal programs so that when certain types of illness get to a point of dollar demand, they're automatically going to have to flip over—with a proper review by doctors and administrators—into a federally supported program. Then we can carry this load, and we do not have to destroy our insurance carriers, our practicing doctors, and our HMOs. If we're realistic in this way, we're going to be able to continue to provide high technology care. But, you see, it's only a relatively small fragment of the overall medical picture that requires this high technology. An open heart operation on a 65-year-old patient who needs a coronary bypass ordinarily goes very well. It costs a defined number of dollars, and it's not that bad. But you have something go wrong in that one patient out of 100, or you have the patient who can't have that operation, and now you have to go on to other kinds of support. The first thing you know, you've just escalated the support costs way out of the ball park.

**These kids are going to live for many years. They will require as much as three-quarters , or a million dollars a year to maintain. How are we going to handle this?**

REECE: *So you see kind of a two-tier system? One much as it is, and the other triggered by catastrophic costs?*

HITCHCOCK: Yes. But it's not two-tier in the sense that you're excluding anybody. It's there for everybody. Anybody who gets to a point of needing more than a given, predetermined number of dollars for his or her support goes into a higher echelon of support, mainly at the federal and public level. At least that's the way I perceive an out for us. ■

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LAWRENCE M. POSTON, M.D.

# Controlled Substances: Are We in Control?

During recent months, I have become increasingly aware that many doctors are concerned about disciplinary action by the Minnesota Board of Medical Examiners (BME) regarding the use of drugs classified as controlled substances, which include narcotics and other medications considered to be either habit forming or subject to abuse by patients. This concern has been expressed to me personally on several occasions and indirectly by letters sent to our medical association and subsequently referred to the Committee on Ethics and Medical-Legal Affairs. By now most of us are aware of a colleague who has been involved in such an action.

The MMA Committee on Ethics and Medical-Legal Affairs is undertaking a review and study of all such BME actions in recent years. We plan to provide you with educational material and some recommendations based on our findings.

My communication today, which is a preliminary discussion of the issues involved, contains some personal observations relating to the problem.

The Medical Practice Act of Minnesota, the statute governing these matters, states in chapter 147.091 Grounds for Disciplinary Action. Subdivision 1.(k):

"Engaging in unprofessional conduct. Unprofessional conduct shall include any departure from or failure to conform to the minimal standards of acceptable and prevailing medical practice in which proceeding actual injury to a patient need not be established."

The obvious question is: "What are the minimal standards of acceptable and prevailing medical practice?" At this point I am unable to state exactly what the BME uses as its standards. I hope that further discussion with the board members will clarify this point and that the efforts of the MMA's ethics committee will result in some specific recommendations regarding practice patterns in this area.

It is clear to me, after some preliminary review of disciplinary actions by the BME that appropriate, short-term use of narcotics and other controlled drugs is not under scrutiny. The problem arises with long-term renewal (i.e., several months) of prescriptions for these drugs, often with little or no documentation of patient contact and follow-up by the physician. Such documentation, including diagnosis, severity, chronicity, consideration of alternative therapy, and evidence of periodic reassessment of all factors entered into medical records would support and defend a decision to continue long-term use of controlled drugs as the most appropriate therapy for a given set of circumstances. The absence of such documentation suggests a lack of attention to detail that should be a part of our control.

Our knowledge of pharmacology and therapeutics continues to expand. Medications once considered to be "the drug of choice" for a given condition have become obsolete. Drug dependence has become a significant problem for some of our patients. Drug dosages and treatment regimens once considered to be proper and harmless are now known to have unwanted effects that may outweigh the good that they do.

A category of medication, the non-steroid, anti-inflammatory drug (NSAID), has been developed that is capable of managing some chronic pain without the unwanted habituation potential associated with most narcotic preparations.

Tranquilizers, such as the benzodiasepines, are no longer considered to be the panacea we might have thought they were a few years ago, when valium was the largest-selling drug in the country. That is largely due to the realization that they may cause a drug dependence in the patient with prolonged use.

This is not to say that there is NO valid use for demerol, codeine, hydrocodone, benzodiazepines, barbiturates and other controlled substances. It *does* mean that we must keep abreast of the expanding knowledge of these medications and use them when and only when such use is carefully considered. Because of potentially harmful effects, they must remain *controlled* substances, and we must bear the responsibility for their proper prescription and use.

Let me reemphasize the need to document in our patient's record that we have carefully evaluated the necessity for controlled drugs—that we have considered alternatives to their use and have made the judgment that, in a given case, they are the best therapy we can prescribe. This process and its documentation are particularly essential if we intend to prescribe controlled drugs on a long-term basis.

Thoughtful attention to these matters is part of the practice of good medicine that is required of us by law. ■

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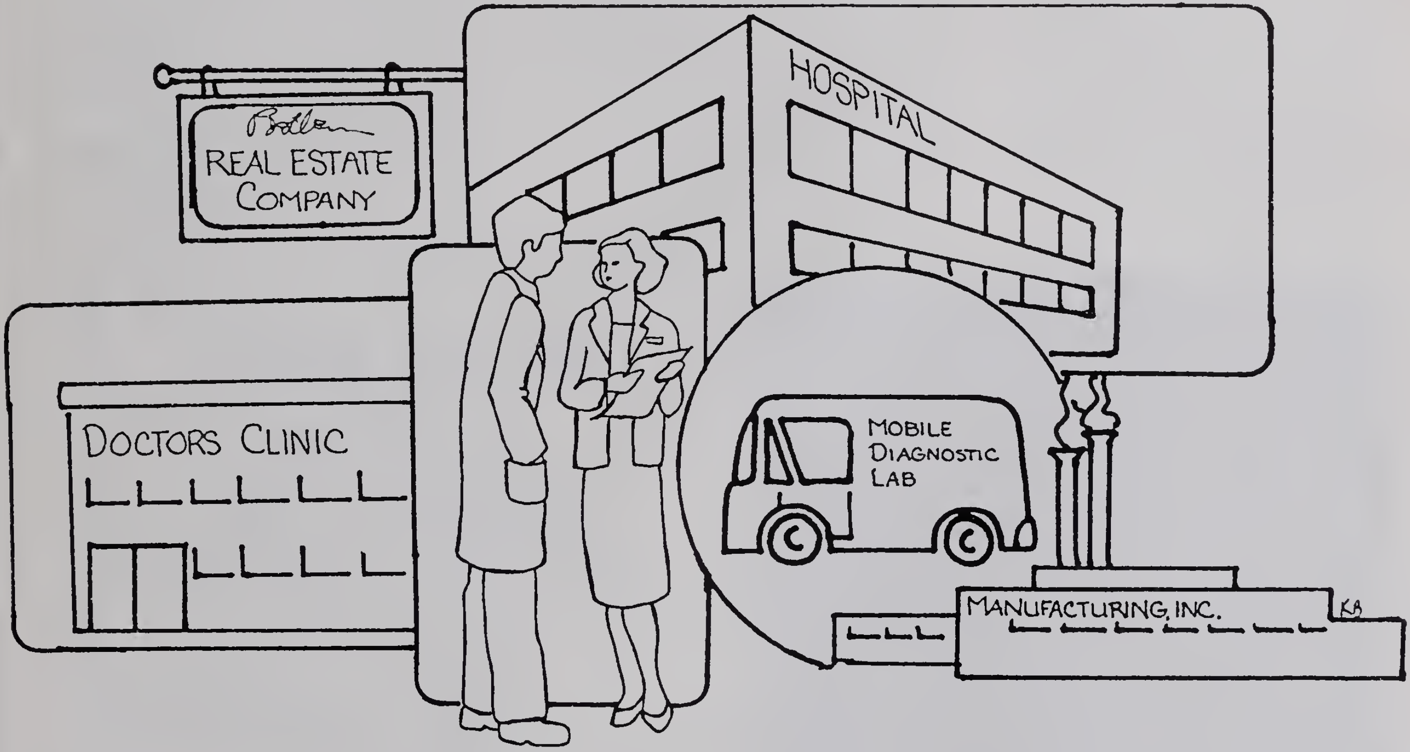

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## RISK MANAGEMENT REVIEW

# Consultations: Clear Communication Prevents Patient Injuries and Malpractice Suits

Obtaining consultations on patients can create significant risks of patient injuries, malpractice claims, and malpractice claim losses when communication breakdowns occur. Clear and direct communication, adequate documentation, and good understanding of the responsibilities of the referring physician and the consultant are essential to protect the patient from adverse results and the physicians from lawsuits.

Often, the specialized expertise of many different consultants is necessary in the diagnosis and treatment of an individual patient. However, as the number of physicians involved with the patient increases, the potential for breakdowns in communication—and resulting patient injuries, malpractice claims, and defense problems—also grows dramatically. Examples of typical problem situations include:

**Case 1:** The patient's attending physician referred the patient to a specialist. The two physicians never spoke to each other about the patient, communicating only through entries in the medical record. Unfortunately, their chart entries were not complete. Conflicting drugs were ordered and administered, resulting in permanent damage to the patient.

**Case 2:** An internist was asked to consult for a surgeon. They disagreed strongly on the diagnosis and care of the patient, and frequently argued in front of the patient's family. To compound this volatile situation, when it was necessary to transfer the patient to a facility that could provide hemodialysis, each physician wrote a conflicting discharge summary. The fighting between the physicians rendered a possibly defensible malpractice case indefensible.

**Case 3:** In another case, an internist performed a consultation for the physician who was covering for the family physician. The internist was asked to manage the patient's diabetes and continued to do so after the family physician resumed care. However, the patient died from infections that were allegedly treated with ineffective antibiotics by the family physician. The internist was sued and criticized for failure to supervise the family physician's antibiotic therapy. During the trial, the internist maintained that the family physician had not wanted help with any aspect of the patient's care except diabetes management.

Many of these problems should be preventable; clear communication among physicians and other allied health professionals is the key.

For the attending physician requesting a consultation:

► Communicate clearly to the patient the reasons you are recommending a consultation, the urgency of the need for the consultation, and the role the consultant will play in the patient's ongoing treatment. For outpatient consultations, the attending physician's office should establish a follow-up or tickler system to determine if the patient has followed through with the recommendation for consultation.

► Indicate to the consultant the degree of urgency of the consultation request. If time is crucial, the consultant should be called to assure that the patient is seen promptly. Because physicians may not be at the hospital on a regular basis, requests for consultations on hospitalized patients should be made through the consultant's office, rather than by a message left at the hospital.

► Clearly define the scope of the consultation requested. Whether the consultant is being asked to address a specific problem or a general condition must be carefully delineated.

► Provide the patient's pertinent history and clinical information to the consultant in writing.

► Clearly designate which physician will maintain responsibility for overseeing and coordinating the various components of the patient's treatment. This should be done both verbally and in writing in the medical record. It is essential for one physician (usually the primary physician) to monitor all aspects of treatment to prevent duplication of procedures and contraindicated treatments, and to ensure timely response to new clinical information.

► Communicate directly with the consultant. Do not rely exclusively on chart notes to tell you what is happening with the patient.

► Communicate with the hospital nursing staff. This should be done both verbally and in writing in the medical record so that they are aware of who is responsible for each portion of the patient's treatment, who should be contacted with test results, and so forth. It is essential that the nurses be informed that all significant information and incidents in the patient's care should be communicated to the primary physician overseeing the overall treatment.

- Undertake prompt review and follow-up on the consultant's progress notes, written reports, and recommendations. Correlate any of your orders with orders the consultants may be writing to avoid conflict. If you disagree with the consultant's recommendations, document why you are choosing not to follow the advice. Do not argue with the consultant in front of the patient.
- Complete prompt written consultation reports and document in the patient's chart any pertinent conversations with the consultant about the patient's treatment.
- Define the scope of your consultation in writing, indicating the limitations specified by the attending physician.
- Indicate what information was available to you, or which parts of the office or hospital chart were reviewed, so that the consultation can be appreciated in the proper context. (e.g., the results of tests or treatment ordered by the referring physician may not have been completed at the time of the consultant's examination.)
- Give verbal reports of urgent findings from outpatient consultations to the referring physician, with the dictated report to follow. For hospitalized patients, if the consultation report is dictated, a handwritten interim note should be entered in the progress notes indicating the date and time of the consultation, the major findings, and recommendations.
- Complete a written report in a timely manner. As a rule, consultants protect themselves from liability when they send a written summary of their examination and recommendations. The report can clarify confusion if either the patient or the referring physician misunderstand advice or instructions.
- Document follow-up visits in the progress notes, along with findings and any modification in patient care.
- Clearly sign off the case when you will no longer follow the patient. Communicate this directly to the attending physician; do not rely on him to pick this information up from the progress notes or the patient.
- Always keep a copy of your consultation report in your records, as well as sending a copy to the attending physician.

---

*Excerpted from* Norcal Claims Rx, *July/August, 1984, Norcal Mutual Insurance Company.*

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# NEWS CLIPS

## HIV PREVALENCE IN THE MILITARY

A recent test of 1,752,191 military personnel on active duty found .13 percent tested positive for the Human Immunodeficiency Virus (HIV), which causes AIDS. The military test group represents the largest group ever tested in a study for HIV prevalence. The U.S. Centers for Disease Control reported 2,232 HIV-positive cases of the 1,752,191 tested this April 24, but concluded that this rate of 1.3 per 1,000 is probably lower than the general population for three reasons: homosexuals and intravenous drug users, because of rules, constitute a below-average percentage of military personnel; hemopheliacs are ineligible for the military; and recruits who test HIV-positive are likewise ineligible.

## *SENIOR PATIENT* MAGAZINE

*Postgraduate Medicine,* a division of the McGraw-Hill Healthcare Information Services Group, will be introducing a new journal entitled *Senior Patient.* This new magazine, which will be published bimonthly in 1989 starting with the January/February issue, will be directed to physicians who care for the growing number of elderly patients in this country.

Circulation is guaranteed at 133,500 primary care physicians in the following specialities: General Practice, Family Practice, Internal Medicine, Osteopathic Physicians, Cardiologists, Gastroenterology, Emergency Medicine, Rheumatology, Pulmonary Disease, and Geriatrics.

## DRUG THERAPY FOR ELDERLY

The Minnesota Veterans of Foreign Wars (VFW) has pledged $150,000 toward the University of Minnesota College of Pharmacy's endowed chair in prescription drug therapy for the elderly.

The pledge, which completes the college's initial $500,000 funding goal for the chair, was announced by Gilbert S. Banker, dean of the college.

With the receipt of matching money from the university's Permanent University Fund, a total endowment of $1 million is earmarked to support a faculty position that will be the cornerstone of the college's program to study the safe and effective use of drugs by the elderly.

## DOCTOR/PATIENT FEE NEGOTIATION

The fees charged by doctors, hospitals, clinics, and treatment centers will be negotiated before the patient is treated as part of a new program to manage care provided to people on an outpatient basis, according to an announcement by Health Risk Management, Inc. (HRM) of Minneapolis.

A similar HRM program for managing inpatient care, introduced in 1984, succeeded in reducing hospital use by some 20 percent for a savings of $11.7 million in 1987. Negotiations brought an additional savings of $15.3 million on hospital bills and $3 million in doctors' fees. Both programs are marketed nationwide to employers, unions, and other group health insurers.

## CAUSE OF ALZHEIMER'S?

After 20 years of research, evidence that Alzheimer's disease (AD) may be caused by an infectious agent has emerged. With grant support from the National Institute on Aging and the National Institute of Neurological and Communicative Disorders and Stroke, researchers at Yale University School of Medicine appear to have successfully transmitted a blood-borne virus from humans to laboratory animals. The agent, which results in a fatal brain disorder, produces brain pathology similar to that caused by Creutzfeldt-Jakob disease (CJD), a rare, progressive brain disease. These preliminary findings were reported in the July issue of the *Proceedings of the National Academy of Sciences.*

The research team, led by Dr. Elias E. Manuelidis, studied one known AD patient and 10 healthy members of families in which at least two close relatives had Alzheimer's disease. While blood cells drawn from these persons were homogenized and then inoculated into the brains of hamsters. Within one year of inoculation, material from five of these persons resulted in the development of characteristic CJD pathology in the hamsters.

## ALCOHOL AND BREAST CANCER

Chicago—An analysis of 16 studies is "strongly supportive" of an association between moderate alcohol consumption and increased breast cancer risk, a report in the August 5 issue of the *Journal of the American Medical Association* found.

This "meta-analysis," pooling the results of 16 reports published since 1982 on a possible drinking-breast cancer link, also finds "compelling" evidence supporting a dose-response relationship between alcohol and breast cancer risk—that is, the more alcohol consumed, the greater the odds of malignancy.

However, the report's authors, Matthew P. Longnecker, M.D., of the Harvard School of Public Health, Boston, and his colleagues, caution that they do not interpret their findings as necessarily being proof of a cause-and-effect relationship between drinking and breast cancer. In addition, they note, their study should be viewed in the broader context of data suggesting that moderate drinking may have a protective effect against cardiovascular disease.

### SEGAL ON KIDNEY BOARD

Marvin Segal, M.D., has been appointed to the board of directors of the Minnesota Kidney Institute representing Metropolitan-Mount Sinai Medical Center.

Dr. Segal is currently the Vice President for Medical Affairs at Metropolitan-Mount Sinai Medical Center and has more than 20 years of experience in private practice as a cardiologist.

### FISH OIL SUPPLEMENTS

There is currently insufficient evidence to recommend fish oil supplements for use by the general public, although the low doses suggested in many commercial preparations probably won't harm normal healthy individuals, according to a report in the August 5 issue of the *Journal of the American Medical Association.*

Some patients with high blood lipid levels might benefit from the medically supervised use of such supplements, writes Jack Zeev Yetiv, M.D., Ph.D., of the Sequoia Hospital, Redwood City, California. But, he says, there is not enough data for such a recommendation in other medical disorders, and fish oil supplements need to be avoided in some cases because of potentially serious side effects.

### ASPIRIN AND REYE'S SYNDROME

The incidence of Reye's Syndrome increases with doses of aspirin given children to treat chickenpox or other viral illness, according to a study in the August 5 issue of the *Journal of the American Medical Association.* Reye's syndrome is a serious, often fatal, illness that affects some children following a viral infection. Aspirin is strongly suspected as having a causative role, since studies have shown that most cases occur among children who have taken the drug, say the authors, Paul F. Pinsky, M.P.H., and his colleagues at the Centers for Disease Control, Atlanta.

### LITHOTRIPTER AT ABBOTT

Abbott Northwestern Hospital will be one of the first clinical sites in the U.S. for the new gallstone lithotripter, which shatters gallstones into tiny fragments with the use of shockwaves.

The major advantage of gallstone lithotripsy is a 24-hour length of stay and return to work within a week. That compares with a three- to five-day hospital stay with several weeks off work for a cholecystectomy.

### LIFE-PROLONGING ICU CARE

Most elderly patients who have experienced intensive care unit (ICU) treatment appear willing to undergo such life-prolonging care even it is means as littles as one month's added survival, according to a study in the August 12 issue of the *Journal of the American Medical Association.*

The authors, Marion Danis, M.D., of the University of North Carolina, Chapel Hill, and colleagues, say this preference appears to hold with little regard for the patients' functional status, quality of life, or life expectancy. Nor do age, severity of critical illness, length of stay, or ICU charges influence willingness to undergo intensive care, the authors say.

### OCULAR MELANOMA IN LIVER

A new treatment scheme using an anticancer drug/polyvinyl sponge mixture can greatly improve survival for patients with ocular melanoma that has spread to the liver, a disease that "previously was virtually resistant to any conventional chemotherapy," according to a study in the August 19 issue of the *Journal of the American Medical Association.*

Ocular melanoma is diagnosed in some 2,000 Americans yearly, spreading to the liver in many of these, say researchers Giora M. Mavligit, M.D., of the University of Texas M.D. Anderson Cancer Center, Houston, and colleagues. Response to therapy and survival are poor once this occurs. But the authors report improved results with a mixture of the drug cisplatin and polyvinyl sponge particles, injecting this directly into the hepatic artery.

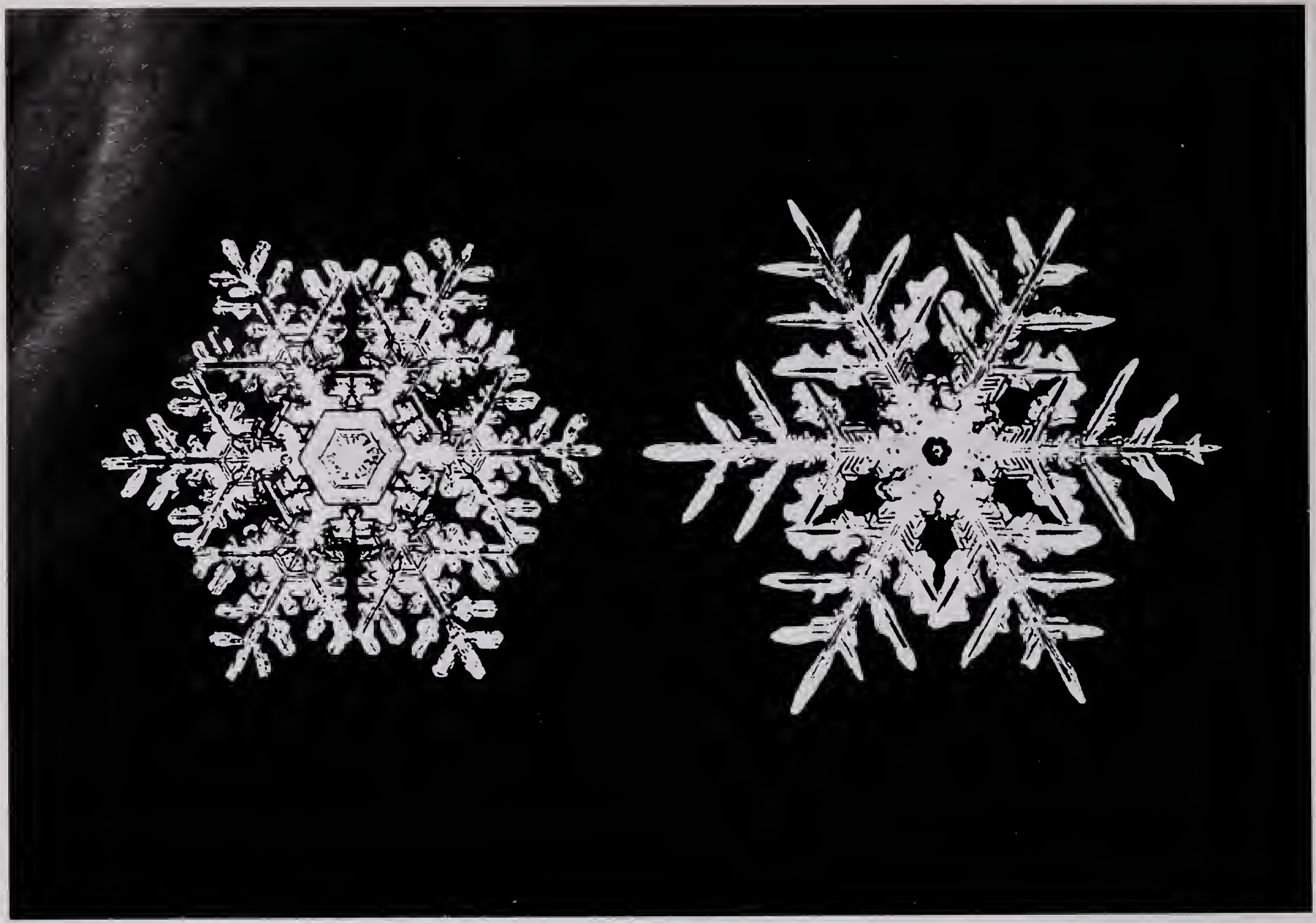
### HMO GROWTH

Health Maintenance Organization (HMO) enrollment topped 31 million in the first quarter of 1988, according to InterStudy's Center for Managed Care Research. The center reports a total of 31,015,425 persons enrolled in 648 HMOs on March 31, 1988, an increase of 1.7 million new members since December 31, 1987. However, 1988 first quarter growth of 5.9 percent was lower than the same period in 1987 when HMOs added 1.9 million members and enrollment increased by 7.6 percent.

### ANT KILLER POISONINGS

An unprecedented increase in poisonings of both children and animals by Terro Ant Killer has been reported by the Hennepin County Poison Center, according to Center Director Michael Wieland, R.Ph.

Wieland reports that the center documented an 11 percent increase in Terro poisonings in humans in the first six months of 1988, as compared to the same time period in 1987, and a 31 percent increase in June alone, compared to June of last year.



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To maintain the high standards of quality care, and because some drugs work better than others on different people, it is essential to have this diversity.

America's research-based pharmaceutical companies are committed to providing a wide range of drugs of the highest quality to serve the public. Why? Because the public is made up of different people requiring different treatment—even when they suffer from the same illness.

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# POLs May Soon Be Regulated

*Steven D. Carter*

Physician office laboratories (POLs) face sweeping operating changes if legislation currently proposed in the United State Congress is adopted. Spurred by a survey conducted by Richard P. Kusserow, inspector general of the Department of Health and Human Services, and by a mandate in the fiscal year 1989 federal budget, regulation of all testing laboratories may soon be reality. Currently, only about 12,000 labs with interstate operations are regulated by the government.

The federal budget for fiscal year 1989, passed in December, 1987, requires all laboratories performing more than 5,000 tests annually to be subject to the same regulation that independent labs currently follow. *Physicians Financial News* reports that since the average doctor orders 2,200 test per year, almost all two- and three-doctor clinics "will have to meet the same staffing, equipment, and quality assurance requirements as independent labs."

Kusserow's study estimates the number of POLs currently in operation to be 98,000, with the number increasing by 16 percent each year. The July 8 issue of the *Journal of the American Medical Association* (JAMA) reports that at least 20 percent of all tests are performed by POLs, providing about $5 billion annually, including more than $400 million from Medicare. However, the study shows fewer than seven percent of the POLs participate in voluntary proficiency testing. A report in *HealthSpan* states that Kusserow's office also received information that some POLs are using untrained personnel.

Kusserow presented his report in July to the House Energy and Commerce Subcommittee on Health and the Environment. His testimony included allegations of kickbacks to MDs for independent lab referrals and unnecessary testing for profit.

The Health Care Financing Administration (HCFA) released regulations this summer for monitoring the POLs and hospital-based laboratories. These regulations, published in the August 5 *Federal Register,* are aimed at increasing the level of quality in testing, and will address proficiency testing, personnel requirements, and internal quality assurance programs. The regulations could take effect as early as 1989.

In his report, Kusserow makes these recommendations:

- ► Development of regulations based on testing complexity;
- ► Minimum quality standards;
- ► Mandatory registration for all POLs that bill Medicare;
- ► Random inspection of POLs that fail proficiency tests, with a penalty of suspension from Medicare payment until deficiencies are corrected;
- ► Medical license sanction or revocation for failure to meet standards.

The number of POLs have increased dramatically in the 1980s. Lab equipment is more affordable, making in-house testing lucrative. There is a distinct marketing advantage for doctors, since they can now have test results while the patient is still in the office—the equivalent of one-stop shopping. Reporting test results during the initial visit also reduces the number of next-day follow-up calls needed to report and explain those results.

The attention focused on previously unregulated laboratories has generated proposed legislation in the House of Representatives. HR4927, introduced by Energy and Commerce Chairman John Dingell, D-Michigan, and Rep. Ron Wyden, D-Oregon, amends the Clinical Laboratory Improvement Act to set stricter standards for testing and to require federal regulation for all labs. The bill requires:

- ► That all labs employ trained staff and that these staff members pass quarterly proficiency tests;
- ► All labs to be licensed and inspected annually by the federal government or another approved agency;
- ► Testing in a variety of cate-

**1985 MEDICAL LAB TESTING**

| Labs | Independent | Physician Office | Other |
|---|---|---|---|
| Site Distribution | 41% | 50% | 9% |
| Test Volume | 47.8 million | 58.7 million | 9.5 million |
| Total Payment | $510 million | $425 million | $201 million |
| Average Payment per test | $10 | $7 | $19 |

Reprinted from ***Healthweek,* July 25, 1988.**

gories. If a lab fails in a particular category, the lab could lose its license to perform that test.

Dingell dropped a proposal that would prohibit a physician with financial interest in an independent lab from sending specimens to that lab for analysis, but will reportedly push for that again next year.

A Senate version, being drafted by William Cohen (R-Maine), Carl Levin (D-Michigan), Brock Adams (D-Washington), and Barbara Mikulski (D-Michigan), is expected to be almost identical to the House bill.

The bipartisan support of such comprehensive legislation enhances the chances that some version will be enacted, possibly this year. However, the November election and the time required by other pressing matters may cause legislative action to be postponed until 1989.

The American Clinical Laboratory Association (ACLA) supports the legislation as a way to begin developing a strongly enforced quality assurance program. ACLA represents federally regulated laboratories. According to *Healthweek,* the ACLA "estimates they spend 15 to 30 percent of their budgets on quality assurance." ACLA believes that regulation of all labs, even POLs, would create a more balanced competitive arena.

Dr. William Roper, head of HCFA, testified in opposition to the legislation at the July 6 meeting of the House Energy and Commerce Subcommittee on Health and the Environment. He told the subcommittee there is a need to improve standards, but he believed the problems should be solved by regulation instead of legislation. He specifically opposed the bill provisions to extend current requirements to POLs.

"While I understand the concern about the quality of lab testing," Roper said, "I want to urge the committee not to take precipitous action in this area. The monitoring and enforcement requirements that apply to independent and hospital labs may be wholly unworkable for physician office labs."

Alan R. Nelson, M.D., president-elect of the American Medical Association (AMA), told the subcommittee that his organization would encourage its members to participate in a program sponsored by the Commission on Office Laboratory Assessment (COLA). COLA is a joint effort by representatives of the American Academy of Family Practitioners, the American Society of Internal Medicine, and the College of American Pathologists to establish standards for proficiency testing, quality control, and continuing education for Physician Office Laboratories. COLA plans eventually to become an independent corporation providing accreditation and certification of laboratories.

In the July 22 issue of American Medical News, Nelson also said that the AMA is concerned that legislation could create a "massive federal licensing bureaucracy that would be extremely difficult to implement effectively.

In response to the legislation, the AMA's Board of Trustees adopted on April 27 a set of principles intended to define the AMA's position on clinical laboratory services and their regulation. These principles are:

► Accurate office clinical laboratory testing provides a valuable service for patients and physicians through greater convenience and diagnostic timeliness;

► The American Medical Association supports quality assurance standards, based on factors such as proficiency testing, quality control, and continuing education for physician office laboratories. These standards should be established by private sector entities. Programs

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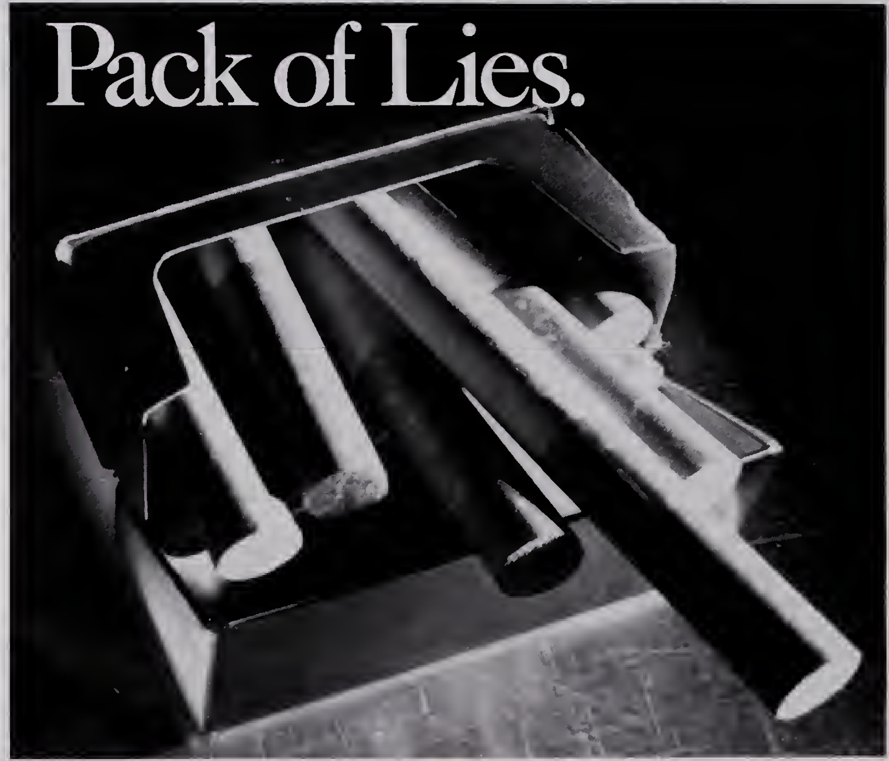

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such as the Commission on Office Laboratory Assessment (COLA) should be encouraged and supported, and physicians should be encouraged to participate in these programs;

- The American Medical Association opposes direct federal regulation or licensure of physician office laboratories;
- Further state legislation, where appropriate, should establish laboratory certification standards. Such legislation should recognize the role of proficiency testing, quality control, and continuing education, and allow "deemed status" for offices that comply with voluntary standards (such as COLA) where those standards meet or exceed the state requirement;
- Voluntary clinical laboratory testing standards should relate to the complexity and difficulty of the specific test being performed;
- The provision requiring physician office laboratories doing more than 5,000 tests in a year to meet all independent laboratory standards by January 1, 1990, should be repealed. In the absence of repeal or substantial change, virtually all of these laboratories (approximately 100,000) would be forced to close, since they would be unable to comply with independent laboratory personnel standards (Ph.D. level scientist or M.D. pathologist requirement for laboratory director, as well as standards for other personnel), and patient access to valuable medical services would be substantially impaired.

---

*Steven D. Carter is chief executive officer of the Minnesota Medical Association.*

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Fall 1988 Conference Schedule

September 28 **Practice enhancement seminar for physician consultants.** "Surviving And Prospering In The 90s" featuring Greg Korneluk of the Practice Enhancement Institute, Boca Raton, Florida. United Hospital/Children's Hospital of St. Paul Conference Center, St. Paul. By invitation only.

October 1 **Health One Career Fair.** "The Successful Business Of Medicine" (Lessons you didn't learn in medical school). For medical residents and clinical fellows. Keynote speaker: William R. Fifer, M.D. United Hospital/Children's Hospital of St. Paul Conference Center.

October 14 & 15 **Current Clinical Cardiology Conference for Physicians**, and **Seventh Annual Jesse E. Edwards, M.D. Lectureship** featuring Robert Frye, M.D., Mayo Clinic. United Hospital/Children's Hospital of St. Paul Conference Center.

November 4 & 5 **New Ulm Seminar for Physicians.** Holiday Inn, New Ulm, Minnesota.

For further information, contact Beth Murphy, CME Coordinator, Medical Affairs Division, Health One. (612) 574-7716.

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# CME IN MINNESOTA

## Provided through the MMA Medical Education Subcommittee on CME Resources

For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; (612) 378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

## OCTOBER 1988

3-6 **AAFP Scientific Assembly** Department of Family Practice & Community Health-University of Minnesota; New Orleans, Louisiana. CONTACT: Debbie Bowman, MCMC, AAFP Scientific Assembly, Continuing Medical Education, 2525 Chicago Avenue South, Minneapolis, Minnesota 55404; (612) 863-6206.

7-8 **Head Injury Conference, Acute Management and Rehabilitation** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

7-8 **Primary Care Orthopedics II** Park Nicollet Medical Foundation; Naegele Auditorium, Park Nicollet Medical Center, Minneapolis, Minnesota. CONTACT: Elaine Anderson, Director of Professional Education, Park Nicollet Medical Foundation, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3703.

8 **Annual Tutorial on Pediatric Cardiology for Primary Caregivers** Children's Heart Clinic; 2nd Floor Education Center, Minneapolis Children's Medical Center, Minneapolis, Minnesota. CONTACT: Harold Katkov, M.D., The Children's Health Clinic, 2545 Chicago Avenue, Suite 106, Minneapolis, Minnesota 55404; (612) 871-4660.

10-11 **Advanced Trauma Life Support Seminar** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

10-14 **Team Management of Diabetes** International Diabetes Center; International Diabetes Center, Park Nicollet Medical Foundation, Minneapolis, Minnesota. CONTACT: Lucy Mullen, R.N., B.S., Assistant Director of Education, Park Nicollet Medical Foundation, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3393.

14 **Fifth Annual Geriatrics Conference** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

14 **Pregnancy and Rheumatic Disease** The Arthritis Center of Park Nicollet Medical Foundation; Naegele Auditorium, Park Nicollet Medical Center, Minneapolis, Minnesota. CONTACT: Anne Doyle or Ruth Tayloe, The Arthritis Center, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 924-2755.

14-15 **Vascular Laser Surgery: A "Hands-on" Training Program** Abbott Northwestern Hospital, Abbott Northwestern Hospital, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East. 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

14-15 **3rd Annual MD Retreat** Minnesota Ambulance Association; Arrowood Resort, Alexandria, Minnesota. CONTACT: Minnesota Ambulance Association, 1821 University Avenue, Suite 160, St. Paul, Minnesota 55104-2801; (612) 645-9374.

14-15 **Cardiology Update** Abbott Northwestern Hospital; Downtown Holiday Inn, Mankato, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

17-21 **Team Management of Diabetes** International Diabetes Center; International Diabetes Center, Park Nicollet Medical Foundation, Minneapolis, Minnesota. CONTACT: Lucy Mullen, R.N., B.S., Assistant Director of Education, Park Nicollet Medical Foundation, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3393.

18 **Infectious Disease** Mesabi Regional Medical Center; Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota; (218) 262-4881, Ext. 259.

19-22 **Twenty-second Annual Orthopaedic & Trauma Seminar** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

20-21 **Emergency Medicine for Primary Care Physicians—Fifth Update** St. Paul-Ramsey Medical Center; Holiday Inn East, I 94 and McKnight Road, St. Paul, Minnesota. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

21 **Second Annual Cardiology Conference** Hennepin County Medical Center/Hennepin Faculty Associates; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

21 **"Case Management: Critical and Urgent Care"** The Duluth Clinic, Fitger's Spirit of the North Theater, Duluth, Minnesota. CONTACT: James Brueggemann, M.D., 400 East Third Street, Duluth, Minnesota 55805; (218) 722-8364.

21-22 **Front-line Neurology: Primary Care Management of Patients with Neurological Problems** Abbott Northwestern Hospital; Radisson Plaza Hotel, 35 South 7th Street, Minneapolis, Minnesota. CONTACT: Tim Schuh, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

27 **Directors of Medical Education (DME) Conference** Hennepin County Medical Center/Hennepin Faculty Associates; HCMC, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

27-28 **HCMC Medical Examiner Annual Forensic Science Seminar** Hennepin County Medical Center/Hennepin Faculty Associtės; Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

## NOVEMBER 1988

4-5 **American College of Physicians Regional Meeting, Minnesota Chapter** American College of Physicians; Hyatt Regency Hotel, 13th and Nicollet, Minneapolis, Minnesota. CONTACT: Gerald R. Onstad, Department of Medicine, Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota 55415; (612) 347-2703.

11-12 **Primary Care Update II** Methodist Hospital Family Practice Department, Hotel Sofitel, Bloomington, Minnesota. CONTACT: Jan Staples, Methodist Hospital, 6500 Excelsior Boulevard, St. Louis Park, Minnesota 55416; (612) 932-5135.

16 **Gastroenterology** Mesabi Regional Medical Center; Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota; (218) 262-4881, Ext. 259.

17-19 **Primary Care Medicine—Sixth Update** St. Paul-Ramsey Medical Center; Holiday Inn East, I 94 and McKnight Road, St. Paul, Minnesota. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

18-19 **General and Peripheral Vascular Laser Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota. CONTACT: Tim Schuh, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

## DECEMBER 1988

1-3 **Annual Cardiopulmonary Medicine Course** St. Paul-Ramsey Medical Center; Holiday Inn East, I-94 and McKnight Road, St. Paul, Minnesota. CONTACT: Bonnie Young, St. Paul-Ramsey Medical Center, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

20 **Physical Medicine & Rehabilitation** Mesabi Regional Medical Center; Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746; (218) 262-4881, ext. 259.

## JANUARY 1989

20-21 **Cardiology Update** Abbott Northwestern Hospital, Radisson Arrowwood Inn and Resort, Alexandria, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

20-21 **Vascular Laser Surgery: "A Hands-on" Training Program** Abbott Northwestern Hospital, Abbott Northwestern Hospital, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

## FEBRUARY 1989

22-25 **Thoracic Organ Transplantation** Abbott Northwestern Hospital, Westin La Paloma, Tucson, Arizona. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

24-25 **General Laser Surgery: "A Hands-on" Training Program** Abbott Northwestern Hospital, Abbott Northwestern Hospital, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

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**Lot For Sale:** Ultra-secluded 2-acre wooded lot in Eagan, $75,000, call Doug at 557-0314. (R)

**Pediatrician** wanted to join a 40-physician multispecialty group in northern suburbs of Minneapolis. The appropriate candidate will join the current Pediatric Department of four physicians in a very busy practice. Please address inquiries to: Bradford McKane, Comprehensive Medical Care, PA, 9055 Springbrook Drive, Coon Rapids, Minnesota 55433 or phone (612) 780-7032. (R)

**Family Physician** to join group of board-certified family practitioners and one board-certified general surgeon. Liberal vacation and education allowances. Competitive salary first year with incentive bonus and full membership after one year. Blue Earth is a community of 4,000 in southern Minnesota with a drawing area of 25,000. 43-bed hospital with adjoining clinic facilities. Complete ancillary support including anesthesiology, radiology, and pathology. Excellent opportunity for an aggressive young family physician. Please contact: Thomas E. Watts, M.D., Blue Earth Medical Center, Ltd., 520 South Galbraith, Blue Earth, MN 56013, Phone: (507) 526-7371, Personal Phone: (507) 526-3177; Marjeane Werner, Clinic Administrator, Phone: (507) 526-7371, Personal Phone: (507) 854-3682. (R)

**Wanted: Family Practitioner, Internal Medicine:** Central Minnesota. Starting salary $55,000. Write: Minnesota Medicine (813), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. (R)

**Twenty-nine Physician Multispecialty Clinic** located in desirable east-central Wisconsin location is seeking board-certified or board-qualified orthopedic surgeon to round out its services. Lab, X-ray, excellent hospital. Liberal guarantee and benefits. If interested, contact: D.F. Sweet, M.D., Fond du Lac Clinic, S.C., 80 Sheboygan Street, Fond du Lac, Wisconsin 54935. (R)

**Family Physician Sought** to join a group of five board-certified family physicians practicing in a city of 3,500 population in the beautiful Minnesota River Valley. New hospital with new attached clinic and satellite locations with the very latest in equipment. Very busy, growing practice. Contact: D. Carter, M.D., (612) 564-2511 (office), (612) 564-4409 (home), 295 Tenth Avenue, Granite Falls, Minnesota 56241. (R)

**General Surgeon and Family Physician** needed for busy five-physician practice. Guaranteed first-year salary with excellent benefits program. Located only 22 miles from Duluth on the beautiful North Shore of Lake Superior. Call collect: (218) 834-2171, or write Steve Bjorum, Executive Director, Community Health Center, 4th Street at 11th Avenue, Two Harbors, Minnesota 55616. (R)

**Family Physician/Emergency Room:** Full-time salary working weekends, primarily emergency room. Flexibility available. Falls Medical Center, PA, 105 Shorewood Drive, International Falls, Minnesota 56649. Please contact: A. Johnson, M.D., or A. Marc Gorden, M.D., at (218) 283-9431 for more information. (R)

**Family Practitioner, General Internist, and General Surgeon** to join 8-physician clinic in Cloquet, Minnesota, a community of 14,000 (30,000 service area), located 20 minutes from Duluth-Superior. The clinic facility is located one block from modern, well-equipped hospital. Cloquet enjoys a stable economy (forest products). Additionally, our community is noted for its excellent school system. First-year salary guarantee, paid malpractice, health and disability insurance, vacation, and study time. Contact: John Turonie, Administrator, Raiter Clinic, Ltd., 417 Skyline Boulevard, Cloquet, Minnesota 55720; (218) 879-1271. (R)

**Canterbury Inn Bed & Breakfast:** Rochester's unique alternative to hotel living. Victorian charm with modern comforts. Private baths, fireplace, central air conditioning, gourmet or special diet breakfast anytime, "tea-time" (wine, hors d'oeuvres, etc.) daily. Private, off-street parking, three blocks to Mayo Clinic and St. Mary's. A very special place for you, your colleagues, and your patients while in Rochester. $55/single, $65/double. 723 Second Street SE, Rochester, Minnesota 55902; (507) 289-5553. (R)

**BE/BC Internal Medicine, OB/GYN & Psychiatrist:** Excellent opportunity to join a well-established, progressive, 15-physician multispecialty group (7 FP, 4 IM, 2 GS, 1 OB/GYN, 1 DERM) located in an economically sound community of 19,000 (drawing area of 30,000), 65 miles south of Twin Cities. Full membership after one year. One FP retiring in 1987. Competitive salary and fringe benefit package. Contact: Pat Greenwood, M.D., or Jim Wilkus, Administrator, 134 Southview, Owatonna, Minnesota 55060; (507) 451-1120. (R)

**BE/BC OB/GYN or GYN/GYN SURGERY,** to join a busy 11-man multispecialty group in southern Minnesota, a community of 12,000 (trade area of 70,000), competitive salary and fringe benefits. Contact: Don Grandgenett, 8 a.m., Fairmont Medical Clinic, 800 Clinic Circle, Fairmont, Minnesota 56031; (507) 238-4263. (R)

**Family Physician** wanted to join four physicians, one nurse practitioner, FP group practicing in two offices in Pine River and Pequot Lakes. Competitive salary. No OB. No HMOs. Rural area with outdoor recreational opportunities. Rotate hospital visits, emergency call; adequate free time. Call or write: C.R. Pelzl, M.D., Pine and

Lakes Clinics, PO Box 88, Pine River, Minnesota 56474; (218) 587-4416. (R)

**Family Physician** needed to join group of five family physicians in St. Peter, Minnesota, population 9,000, located one hour south of Minneapolis. Contact: Doug Olmanson, M.D., or D.A. Nygard, Administrator, St. Peter Clinic, Ltd., 622 Sunrise Drive, St. Peter, Minnesota 56082; (507) 931-2110. (R)

**Family Physician** to join four others in a well-established, progressive practice serving a market of over 20,000 people. Wabasha, one of Minnesota's most historic, friendly, and beautifully scenic cities, is located on the Mississippi River and offers year-round recreational and sporting activities. Interested physicians please contact: Tom Crowley at (612) 565-4531 (collect). (R)

**Pediatrician:** Ideal opportunity available immediately. Excellent location. Benefits. Apply to: Randall Warren, M.D., or Richard Moore, Administrator, Mork Clinic, P.A., 1833 2nd Avenue South, Anoka, Minnesota 55303; (612) 421-3680. (R)

**GP/FP/EM Available** as locum tenens, weekends. Board-certified. FP. Lic. Minn. Write: Box 35132, Minneapolis, Minnesota 55436. (R)

**Wausau Medical Center** is seeking BE/BC individuals in the following specialties: cardiology, dermatology, family practice, infectious disease, obstetrics/gynecology, pediatrics, and rheumatology. Modern clinic facility located across the street from modern, 300-bed hospital. Full partnership in three years. Easy access to lakes, woods, and mountains. Write (including CV) to: D.K. Aughenbaugh, M.D., Medical Director, Wausau Medical Center, 2727 Plaza Drive, Wausau, Wisconsin 54401. (R)

**St. Cloud—** Minnesota's fastest growing city—family practice physician, 2 pediatricians, 2 ob/gyns, BE/BC to join supportive primary care staff in a growing, successful, and innovative prepaid practice. New clinic facility. Full range of fringe benefits (competitive salary, liberal vacation, two weeks' education leave, retirement fund, etc.). Contact: Gary Strandemo, M.D., Central Minnesota Group Health Plan, 1245 15th Street North, St.Cloud, Minnesota 56303; (612) 253-5220. EOE. (R)

**Family Physician:** Dynamic 13-physician, 3-office, single-specialty practice in northwest Minneapolis suburbs seeking additional associate, BE/BC; OB available. Competitive salary, full benefits, reasonable call and hospital rounds schedule. Contact: Dr. Ken Kephart, Northwest Family Physicians; (612) 476-6776. (R)

**Ten-person Multispecialty Clinic** seeking pediatrician and general surgeon. Financial package competitive. Outdoor hunting, fishing wonderland! Excellent lifestyle, practice, and opportunity. Interested individuals should contact: Nephtali Matta, Administrator, Medical Associates Clinic, 772 East Dakota, Pierre, South Dakota 57501; (605) 224-5901. *3-11/88

**General Internist:** 14-member primary care group, including ten family physicians, one internist, surgeon, pediatrician and OB/GYN, requires a board-certified general internist to continue and develop a primary and consultative internal medicine practice in Marshall, Minnesota. Affiliated with a progressive multispecialty group of 72 physicians. USUAL CHAMBER OF COMMERCE CLAIMS NEARLY TRUE HERE! Contact C. Paul Martin, M.D., Doctors' Plaza, 300 South Bruce, Marshall, Minnesota 56258; (507) 532-9631 or send CV and references to: John Merickel, M.D., Willmar Medical Center, 101 Willmar Avenue SW, Willmar, Minnesota 56201. 4-10/88

**2V STAT:** Medical diagnostic and therapeutic decision support software, covering 69 specialties. Medical algorithms (flow charts) are grouped according to sign, symptom, complaint, organ and system, specialty, age, and MDC/DRG. Updated medical knowledge at fingertips. Demo disk, $95. Contact: 2V STAT, 2480 Windy Hill Road, Suite 201, Marietta, Georgia 30067; or call Dongbong Kim, M.D., NOW! at (404) 956-1855 for further information. *6-12/88

**Urgent:** FP/GP physicians needed for practice opportunities within ARIZONA and throughout the United States. Excellent group and solo opportunities available. For additional information, call (602) 990-8080; or send CV in confidence to: Mitchell & Associates, Inc., PO Box 1804, Scottsdale, Arizona 85252. (*R)

**Pediatrician & Family Practitioner:** Leading suburban multispecialty clinic needs peds & family practitioner. Outstanding opportunity to associate with quality professionals. Ideal community to live and raise a family. Contact: Richard Moore, Clinic Administrator, Mork Clinic, 1833 Second Avenue South, Anoka, Minnesota 55303; (612) 421-3680. 3-10/88

**Family Practice** St. Paul area. Includes air conditioned street-level building, six examining rooms, two private offices, two-car garage, and parking facilities, adequate storage in full basement. Write Minnesota Medicine (827), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. 3-10/88

**Family Practitioners:** Immediate opportunity for two board-certified/eligible family practice physicians to practice in a branch office setting in association with one established family practice physician. Generous first-year salary and fringe benefits. Located in the beautiful lakes country of northern Minnesota with abundant recreational opportunities. Call collect or write: Dr. Joseph Corser, (218) 694-2384, Bagley Medical Center, PO Box 186, Bagley, Minnesota 56621; or C.C. Lowery, Administrator, (218) 751-1280, Bemidji Clinic, Ltd., 1233 34th Street NW, Bemidji, Minnesota 56601. 6-1/89

**Anesthesiology, Dermatology, Family Medicine, General Surgery, Internal Medicine, Orthopedics, Otolaryngology, OB/GYN, Pediatrics, Psychiatry:** ALRMG is a 37-MD, non-HMO clinic in beautiful Albert Lea, Minnesota. These positions are created by retirements and development of new departments. The hospital and clinic are modern, progressive, established, and the primary health care providers in our service area. Excellent educational and cultural opportunities. Competitive income, excellent benefits, early shareholder status with first-year salary guarantee with incentive options. Send CV to: Administrator, ALRMG, 1602 Fountain Street, Albert Lea, Minnesota 56007-1642; or call (507) 373-8251 for further information. 3-10/88

**Family Practitioner** to join a progressive 12-physician practice at its Ellsworth, Wisconsin, branch. Rural community 40 miles from St. Paul, Minnesota. Liberal benefit package. Salary commensurate with background and experience. Contact: R.M. Hammer, M.D., River Falls, Wisconsin 54022; (715) 425-6701 or (612) 436-8809. (R)

**Internist** BE/BC with or without subspecialty training to join six other internists in 16-member multispecialty clinic in Worthington, Minnesota. Liberal vacation and meeting time including stipend. Contact: R.D. Sudmeier, M.D., or John J. Sieve, Administrator, Worthington Medical Center, PA, 508 Tenth Street, Worthington, Minnesota 56187; (507) 372-2921. 3-10/88

**Family Physicians:** Practice opportunities for three or four BC/BE family practitioners to practice in southwest Minnesota. Worthington Medical Center PA, a 16-member multispecialty group, seeks to expand its practice in Worthington and Jackson, Minnesota. Above-average salaries, liberal vacation, and standard benefits package. Contact: D. Anderson, M.D., or J. Sieve, Administrator, Worthington Medical Center, 508 Tenth Street, Worthington, Minnesota 56187; (507) 372-2921. 6-1/89

**Johnson & Falls Search Associates** represents new practice opportunities locally and nationally. Working exclusively in the area of physician search, we are committed to expanding your professional options while meeting our clients' needs. There are no fees to candidates. For a thorough, confidential search, send CV or call: Liz Johnson, or Pat Falls, Johnson & Falls Search Associates, 34 Forest

Dale Road, Minneapolis, Minnesota 55410; (612) 922-0237. (R)

**Mankato Clinic, Ltd.** is seeking BE/BC physicians in the following specialties: allergy, dermatology, invasive cardiology, oncology, urology, ophthalmology, and general internal medicine. The Mankato Clinic is a 38-doctor multispecialty group practice in south-central Minnesota with a trade area population of 150,000. Guaranteed salary first year, incentive thereafter with full range of benefits and liberal time off. For more information, call Roger Greenwald, Administrator, or Dr. B.C. McGregor, (507) 625-1811 or write 501 Holly Lane, Mankato, Minnesota 56001. (R)

**General Surgeon,** board-eligible or board-certified, to join a group of four general surgeons in practice of general, vascular, and thoracic surgery in northern Minnesota. First-year salary guarantee, excellent benefits, and early partnership. For details send CV to: Duluth Surgical Associates, Ltd., North Land Medical Office Center, 1000 East First Street, Suite 203, Duluth, Minnesota 55805. 3-10/88

**Ten-person Multispecialty Clinic** seeking pediatrician and general surgeon. Financial package competitive. Outdoor hunting, fishing wonderland! Excellent lifestyle, practice, and opportunity. Interested individuals should contact: Nephtali Matta, Administrator, Medical Associates Clinic, 772 East Dakota, Pierre, South Dakota 57501; (605) 224-5901. *3-11/88

**Family Physician** needed to join group of five family physicians in St. Peter, Minnesota, population 9,000, located one hour south of Minneapolis. Contact: Doug Olmanson, M.D., or D.A. Nygard, Administrator, St. Peter Clinic, Ltd., 622 Sunrise Drive, St. Peter, Minnesota 56082; (507) 931-2110. (R)

**Unsecured Signature Loans:** $5,000-$60,000 for physicians. Use for any need including taxes, debts, investments, etc. No points or fees. Competitive rates. Level payments up to six years. Call toll free 1-800-331-4952, MediVersal, Department 114. *2-10/88

**Minnesota Internist Seeks BE/BC Internist** to join his practice in a central Minnesota resort community. Beautiful lakes and expanding retirement area. New 162-bed hospital with all specialties. Offices in 5-year-old medical office building. Write: Minnesota Medicine (828), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. 4-12/88

**Internal Medicine:** General internist to join a 16-physician multispecialty clinic. Join three general internists serving a population base of 45,000. Offering competitive salary, bonus, low buy-in after one year. State-of-the-art ancillaries. Contact: Richard Graber, Administrator, Austin Medical Clinic, P.A., 101 14th Street NW, Austin, Minnesota 55912; (507) 433-7351. 3-11/88

**Pediatrician** to join existing two-person practice at the 23-physician multispecialty Winona Clinic, Ltd., in Winona, Minnesota. Located in the beautiful Mississippi River Valley of southeast Minnesota. The community with a 40,000 population trade area is the host of three colleges and a diverse industrial base. Send CV to: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, Minnesota 55987. 3-11/88

**Orthopedic Surgeon:** Board-certified/board-eligible to join a 23-physician multispecialty group in Winona, Minnesota. Total patient population draw area of 40,000. Interested physicians please contact: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, Minnesota 55987. 3-11/88

**Internal Medicine:** Little Falls, Minnesota, near St. Cloud; 11-physician group; 2 offices; 250-bed hospital/nursing home; attractive salary. Reply to: Minnesota Medicine (829), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. *3-11/88

**Bemidji, Minnesota:** Excellent opportunities for well-trained physicians. We are seeking board-certified/board-eligible physicians in orthopedic surgery, family practice, ophthalmology, pediatrics, and otolaryngology to join a young 24-physician multispecialty group practice located in northern Minnesota. Competitive salary guarantee plus incentive first year and excellent benefits. An excellent opportunity for a physician to enjoy practice in the center of hunting, fishing, and clear air. Please respond with CV to: C.C. Lowery, Administrator, Bemidji Clinic-MeritCare, 1233 34th Street NW, Bemidji, Minnesota 56601; (218) 751-1280. (R)

**Internal Medicine:** Group of three internists seeking fourth partner. Contact: J. McCrery, M.D., 1527 Broadway, Alexandria, Minnesota 56308; (612) 762-2192. 6-2/89

**Family Physician** to join medical staff of two family practitioners in well-established rural clinic in central Minnesota, along the southern shores of beautiful Mille Lacs Lake. Excellent subspecialty support, progressive community hospital, diverse patient population. Call collect, (612) 676-3661, or write c/o Nancy Swenson, Clinic Manager, Mille Lacs Family Health Center, PO Box 53, Isle, Minnesota 56342. (R)

**Family Practice:** Opportunities available in North Dakota and northwestern Minnesota. Outstanding opportunities with a large multispecialty group seeking physicians for several divisional sites. Each available position offers a full range of family practice. Several with on-site subspecialty support. Competive starting salaries and excellent benefit package. For more information, send CV to: John L. Weir, Associate Administrator, Dakota Clinic, Ltd., Box 6001, 1702 South University Drive, Fargo, North Dakota 58108; or call (701) 280-3381. *3-12/88

**Minneapolis Suburban Pediatric Group** has opportunity for board-certified or eligible pediatrician. Busy, diverse practice with good compensation and fringe benefit package. Contact: Gene Inett, Administrator, Metropolitan Pediatric Specialists, P.A., 416 Southdale Medical Building, Edina, Minnesota 55435; (612) 920-9191. 3-12/88

**Physicians-All Specialties:** Excellent opportunities nationwide. We specialize ONLY in physician placement! Call Earl Czech (612) 754-2556. North Central Staff Services, Inc., 11000 Central Avenue NE, #207, Minneapolis, Minnesota 55434. 6-3/89

**Board-Certified Family Practice Physician** needed for full-time practice in close-knit suburban community 25 minutes west of Minneapolis. This is "management-free" medicine with a guaranteed salary, incentives and practice management assistance. Clinic is associated with Methodist Hospital of St. Louis Park, a progressive regional health-care center. Physician can work toward ownership of clinic. For more information, write: Kathy Whatley, Methodist HealthCare Associates, PO Box 650, Minneapolis, Minnesota 55440; or call (612) 932-6471. 1-10/88

**Family Physician Faculty Member—Duluth, Minnesota:** The Duluth Family Practice Residency Program is seeking an ABFP-certified family physician for full-time teaching and administrative responsibilities. This position carries an appointment in the Department of Family Practice & Community Health, U of Minnesota, Minneapolis. We want an enthusiastic clinician who is a capable leader. Duties include administrative tasks in the academic committees and some patient care. Salary and fringe benefits competitive. Inquiries and CVs should be directed to: Thomas W. Day, M.D., Duluth Family Practice Center, 330 North 8th Avenue East, Duluth, Minnesota 55805; (218) 723-1112 by November 30, 1988. The University of Minnesota is an equal opportunity educator and employer and specifically invites and encourages applications from women and minorities. 1-10/88

**Clinic Space Available:** 14 exam rooms, office suite, lab & X-ray, in Maplewood Medical Building, next to St. John's Northeast. Immediate occupancy. Call Jeannine Schlottman, Multicare Associates, (612) 785-3338. 1-10/88

**Clinic Space Available:** 5 exam rooms, lab & X-ray, across from

Rosedale Shopping Center. Immediate occupancy. Call Jeannine Schlottman, Multicare Associates, (612) 785-3338. 1-10/88

**Immediate Opening:** BC/BE internist, competitive salary guaranteed with incentive formula. Midwest. Available now, or July, 1989. Send CV and inquiries to: Minnesota Medicine (830), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. 1-10/88

**General Surgeon:** Immediate solo practice opportunity in east-central North Dakota. Strong 2-year guarantee. New 30-bed profitable hospital. Proud rural community offers strong economy, excellent schools, clean environment, abundant recreation, and easy commute to major cities. Contact: Don Gustavson, Tyler & Company, 9040 Roswell Road, Atlanta, Georgia 30350. Or call (404) 641-6411. *1-10/88

**Alabama:** Solo family practice in town of 15,000. Excellent coverage. No OB, grossing 225K after only two years. Near Gulf. Write: Minnesota Medicine (831), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. 2-11/88

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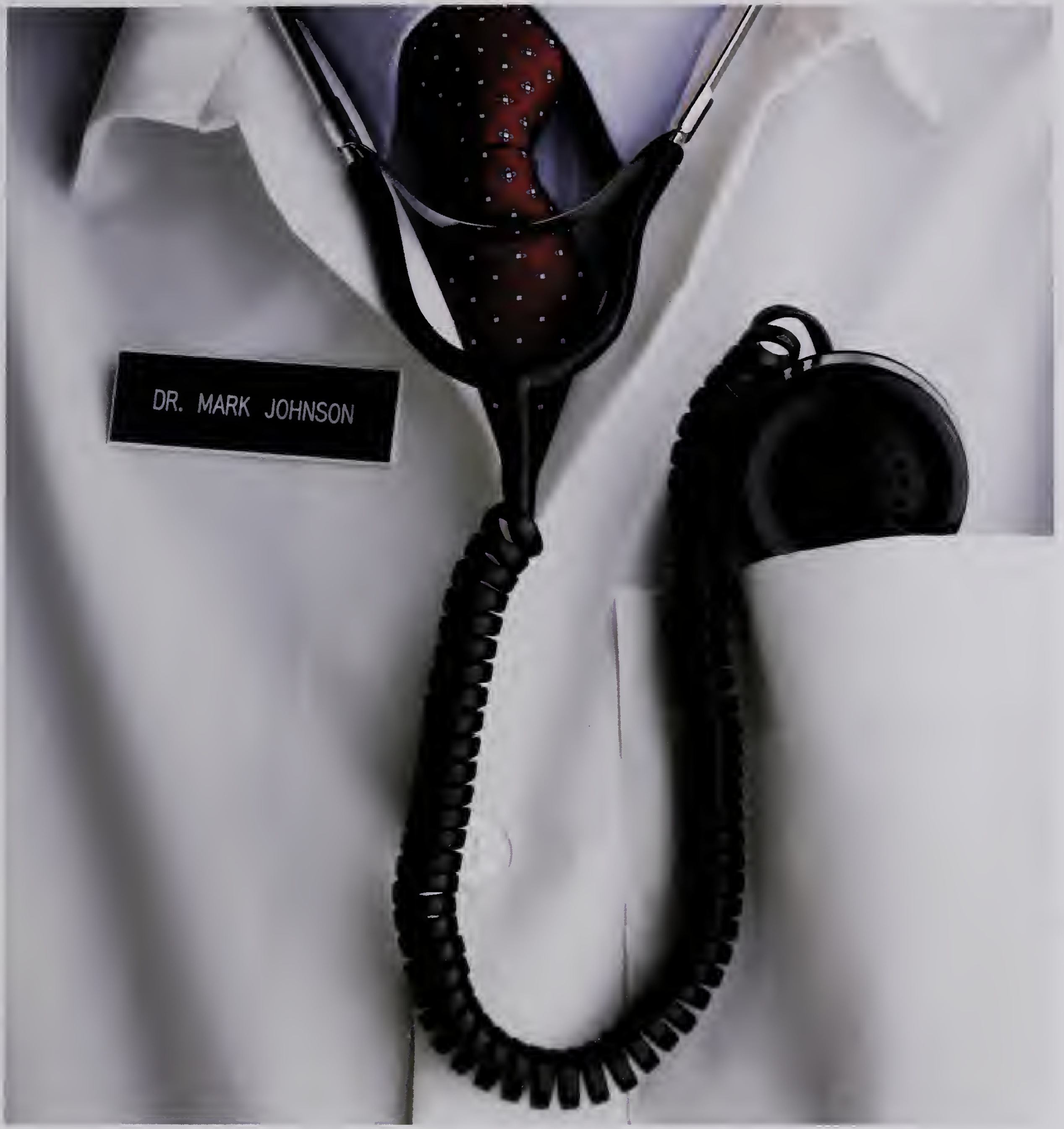

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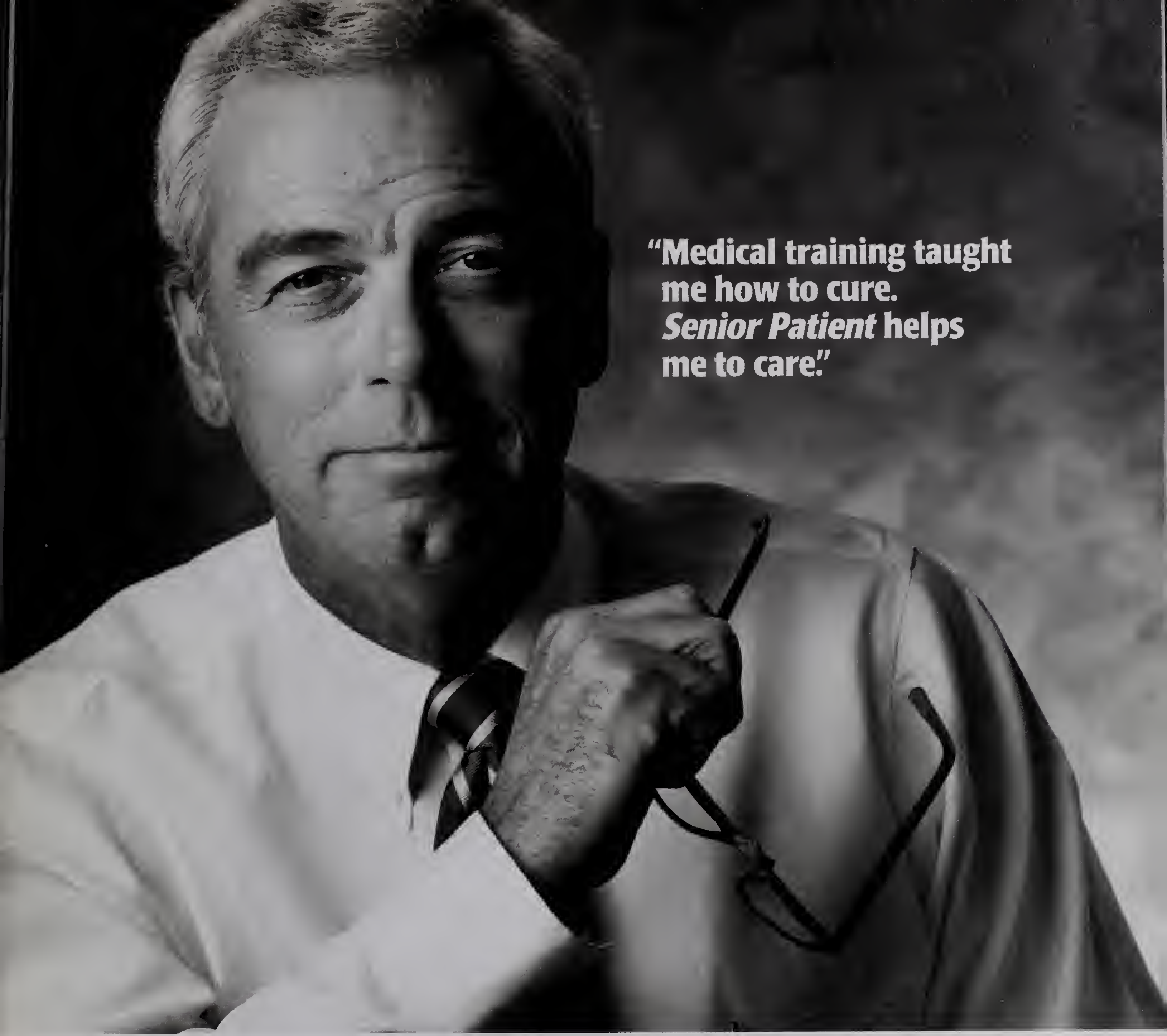
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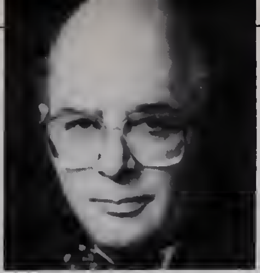

RICHARD L. REECE, M.D.

## EDITOR'S NOTEBOOK

# A Traumatic Week for Minnesota

I am writing to introduce this special issue of *Minnesota Medicine.* The issue concerns Emergency Medical Systems and Trauma Care. As I set down these words, I can't help but note it's been a traumatic week for me and other Minnesotans. Perhaps I ought to rephrase that sentence: It's been a week of trauma for myself and for Minnesota. No, that's still not right.

It's been a week in which many events relating to emergency care and trauma care occurred in Minnesota. I'm getting closer to what I mean, but I'm still trapped in a semantic word warp of my own making. Let me explain.

First, we were busy this week on this special issue of *Minnesota Medicine.* The state of Minnesota has awarded the Minnesota Medical Association a grant to help improve Minnesota's statewide emergency medical system. The association plans to do this by educating physicians and other professionals, by informing the public, and getting consumers to participate in the study. The grant is modest, but among other things, it helps support this issue of the magazine. The grant project began on July 1, 1988, and ends on June 30, 1989.

As far as my part in this grant, I didn't really get cranking until this week. For me, deadlines, like serious illnesses, have a way of concentrating my attention. Anyway, deadlines are always traumatic, and Chuck Benda, my current managing editor, (Meredith McNab is on a well-deserved leave of absence), and I are scrambling in earnest this week to put together this issue.

Second, this week I conducted my two interviews with people in the know about emergency and trauma medicine. The interviewees are Dr. James Joseph Cicero of Ramsey Medical Center and Dr. Peter Mucha of the Mayo Clinic. You may want to know how I pick the people I interview. The process is partly intuitive, partly guesswork, and partly political.

The biggest trauma center in Minnesota, by a fair margin, is Hennepin County Medical Center (see Figure 1 for the Twin Cities' top ten trauma center statistics). Hennepin physicians see over 81,000 patients yearly in their emergency unit. Hennepin also has the only residency program for training emergency room physicians in Minnesota.

But we have just published a special feature on Claude Hitchcock and his work at Hennepin County Medical Center, and I believe in spreading around the ink. Ramsey Medical Center and Mayo both treat about 66,000 patients yearly in their emergency or trauma centers, so I flipped a coin twice and it came up heads and tails.

Frankly, I had twinges of guilt about neglecting North Memorial Hospital, which has a class act in trauma with high volumes, and St. Mary's Hospital in Duluth, another fine regional trauma center.

Third, this week North Memorial Hospital opened North Trauma Center. It was a gala event, pitched on WCCO Radio and other media as an occasion for community celebration and as a showplace for the community. Critics have said to me that the opening of North Trauma Center was too much of a media event. I don't agree. North has worked at least 25 years in establishing itself as a trauma center—in

**Notebook** *to page 668*

Ranking by Patient Volume of Twin Cities Top Ten Hospital Emergency Departments from 1984 to 1987

| Medical Center | Patient Visits Per Year | | | |
|---|---|---|---|---|
| | 1984 | 1985 | 1986 | 1987 |
| 1. Hennepin County Medical Center | 67,758 | 70,089 | 77,043 | 81,458 |
| 2. Ramsey Medical Center | 62,909 | 63,217 | 64,822 | 66,955 |
| 3. North Memorial | 43,466 | 46,671 | 48,639 | 53,417 |
| 4. Fairview Southdale | 32,780 | 29,267 | 38,825 | 40,685 |
| 5. Methodist | 32,842 | 34,049 | 35,810 | 38,635 |
| 6. Mercy Hospital | 23,248 | 23,740 | 25,841 | 28,565 |
| 7. United Hospital | 16,193 | 18,744 | 23,956 | 25,543 |
| 8. St. Paul Children's | 17,904 | 19,632 | 21,168 | 24,046 |
| 9. Abbott Northwestern | 15,333 | 16,109 | 19,957 | 22,539 |
| 10. St. John's, Northeast | —— | 5,496 | 17,532 | 22,340 |

**FIGURE 1 - Yearly visits to top ten Twin Cities' emergency departments from 1984 to 1987.**

# Pride in St. Paul

**REECE:** *Dr. Cicero, you've been at St. Paul-Ramsey Medical Center in the emergency department since 1974. In that time span, you've seen the specialty of emergency medicine and the field of emergency medicine and emergency medical services evolve. In your opinion, does Minnesota have a good emergency care system?*

**CICERO:** I believe it does. I believe that the people of Minnesota can get quality care in major facilities in this state. Facilities that aren't large enough have transport systems to move patients to major centers. We do not have a regional trauma system. Some people take us to task for that. However, the care that is available to the people in this state is excellent.

**REECE:** *Why is it excellent? Are there centers in this state that train good physicians for emergency medicine?*

**CICERO:** With the evolving emergency medicine specialty, we're having some highly trained people going to a variety of hospitals. These emergency medicine specialists can take care of 99 percent of all the emergencies, even in moderately sized emergency rooms.

**REECE:** *Where are these people trained in Minnesota?*

**CICERO:** In Minnesota, the only residency in emergency medicine we have is at Hennepin County Medical Center, and they have an excellent program. They train outstanding physicians who go out and do this kind of practice. Of course, all the major academic centers train surgeons and others who perform vital functions in emergency rooms.

**REECE:** *How many residents does Hennepin have in a given year?*

**CICERO:** They take six per year. That's a three-year program. So they have 18 in the program including their internship year. Emergency medicine is one of their most sought-after programs.

**REECE:** *It's my understanding that Hennepin County Medical Center is the largest single trauma center right now, with 81,000 patients a year, but Ramsey and Mayo have centers almost as big. Describe your*

JAMES CICERO, M.D.

**Cicero** *to page 710*

*I chatted with Jim Cicero, chief of St. Paul-Ramsey Medical Center's emergency medicine department, in his St. Paul office. It was a hurried interview. Neither of us had much time to prepare. We had arranged to meet scarcely an hour before. Yet I relish these kind of exchanges. You can achieve a certain spontaneity and directness.*

*"Direct" is a good word to descibe Jim Cicero. He is a sleeves-rolled-up, no-nonsense, direct-eye-contact, straight-to-the-point kind of guy.*

*Perhaps his style evolved out of 14 years of handling emergency room cases at Ramsey. I have no doubt he uses the same technique in dealing with the dozen or so emergency room physicians under his wing and with patients under his care.*

*His most prominent trait is his pride. Jim is extremely proud of the roles he and his institution play in caring for the sick and injured; he is proud of his department's "mission" of taking care of all comers, regardless of their financial status; he is proud of the specialty of emergency medicine and the part he's playing in developing it; and he's proud of the emergency room system in Minnesota.*

*Finally, I sensed he's a little suspicious of grand bureaucratic schemes to lay down rigid criteria for a regional trauma system. He believes the current system, and he and his colleagues, have responded admirably to the demands of the public for a good emergency room system. But, in the end, he will accept any "system" that he believes is good for the sick, the injured, or even the lonely who are seeking help for what they believe to be an emergency. Down deep, he's proud to be a physician, and he's carrying out that mission in the most direct way he can.*

# Trauma Care the Mayo Way

PETER MUCHA, JR., M.D.

*When Mayo men come, they come prepared.*

*Dr. Peter Mucha, Jr., Director of Emergency Room Surgical Services at the Mayo Clinic, was no exception. When I met him in the cafe at the Normandy Village Inn in Minneapolis for a get-acquainted luncheon, he had a manilla folder under his arm. The folder contained everything I needed to know about Dr. Mucha's views, those of Mayo, and those of the American College of Surgeons.*

*Contents of the folder included a crisp resumé of the College's position on Emergency Medical Services and Trauma Systems; two College summaries of separate House and Senate acts to improve and develop trauma systems and emergency medical services; a list of organizations supporting these bills; a College "fact sheet" on trauma; letters by Dr. Mucha to congressmen, senators, and the Minnesota Commissioner of Health; and an imposing booklet, again by the American College of Surgeons, "Hospital and Prehospital Resources for Optimal Care of the Injured Patient and Appendicies A through J."*

*I couldn't complain about not being briefed.*

*After lunch, we strolled to the Minneapolis Club for the interview. The American College of Surgeons held their annual meeting of the Minnesota chapter there, and Dr. Mucha, Chairman of the State Committee on Trauma, was in town to attend.*

*I don't want to leave you with the impression that Dr. Mucha was stuffy, rigid, or overly formal. On the contrary, he was lively, animated, and casually persuasive about his favorite subject of trauma. We were quickly on a first-name basis. Peter is a handsome, blue-eyed, vigorous man whose white hair belies his youth. At 45, he is an international authority on creating trauma centers and trauma systems, on trauma as a national problem, and on working within the political arena to improve the current system.*

REECE: *You direct the Emergency Room Surgical Services at Mayo. In addition, you're Associate Professor of Surgery at Mayo Medical School. Most importantly, you were instrumental in building the Mayo emergency trauma unit. What's your background, what did you do before you came to Mayo, and when did you join the Mayo staff?*

MUCHA: I am a Pennsylvania native who came to Minnesota in 1972 to start a neurosurgical residency at Mayo. But before that time, I had already gotten involved in emergency medicine. The field was just beginning back in the late 60s and early 70s. I had done full time ER work in Pennsylvania before my residency, and the subject of emergency care captured my imagination.

When I came to Rochester, I wanted to be a neurosurgeon. But I had caught the bug with emergency care. As an aspiring neurosurgeon, what really intrigued me was acute central nervous system trauma. After my year of general surgery training to prepare for neurosurgery, I realized I was more turned on by trauma and emergency care.

I was all set to return east to head up an emergency room, but when I was invited to stay on at Mayo for residency training in general surgery with a special emphasis on emergency care and trauma, I jumped at the opportunity. Suffice it to say, I had an individualized residency training program. This is impossible to do nowadays, with the way accrediting agencies are set up. During my four-year residency, I spent time at Detroit Receiving Hospital in Detroit, then known as "Murder City, U.S.A.." I rotated on numerous medical and surgical specialties at Mayo dealing with acute care. In 1976, I was appointed to the staff of the Mayo Clinic with a mission to improve emergency care.

REECE: *What were your ideas in 1976? What did you have in mind when you started?*

MUCHA: The key ingredient in emergency care is availability.

Whether you're talking about a university setting, a Mayo Clinic, or a small community hospital, the

*continued*

key to any type of emergency care or trauma system is providing the personnel and resources to respond to whatever emergency might occur.

For the first year, I visited other trauma centers across the country to see what resources were needed to achieve availability and performance. What started off as myself and maybe one resident has now evolved to the point where, at any given time, we have two fifth-year general surgical chief residents, upwards of eight to 10 first or second year residents, and all the various surgical subspecialties rotating on this trauma service at any given time. We have, in addition to myself, another consultant staff surgeon, Mike Farnell, up to seven full-time consultants in internal medicine and their residents, and a pediatrician with pediatric residents—all available in the ER setting to respond to whatever emergencies might occur. And this doesn't even taken into account all the nursing and paramedical personnel necessary to support this many physicians.

In addition to personnel, there's facilities. In 1978, when trauma center designation was a hot item, the Mayo Clinic was encouraged to take a leadership role. In this regard I was given the carte blanche opportunity to design and develop the ideal emergency room. That now is an 18,500-square-foot emergency trauma unit at Saint Marys Hospital that, I am proud to say, is a real showpiece for emergency care. We have two CT scanners adjacent to the trauma unit, OR personnel to staff up to three operating rooms at any moment, around-the-clock availability of anesthesia, laboratory, and X-ray support, and a total of nine specialized intensive care units.

REECE: *When did the idea of "trauma centers" take hold? When I was an intern in 1961, we didn't use such language. Did the Vietnam war have anything to do with this idea?*

MUCHA: It sure did. The trauma concept really reached its peak at the height of Vietnam when most physicians during that era spent an obligatory year in Vietnam. We saw what modern day EMS was all about. Helicopter systems, transporting casualties from the scene to a field hospital within 10 minutes, was quite advanced compared to most hospitals in the United States and if need be, moving the patients down to Cam Rahn Bay to a 1,000-bed modern-day wonder, with all the sophistication that modern medicine could bring to bear.

**"Of greater importance today is the magnitude of trauma as a whole. This includes motor vehicle crashes, burns, drownings, falls, and industrial accidents, in addition to the knife-and-gun club type of trauma."**

REECE: *So you came back to this country looking at trauma in a new light. Suddenly many of you must have realized that trauma for civilians in the United States was inadequate.*

MUCHA: Calling it "inadequate" is polite. It was quite pitiful in many parts of the United States, and surgeons, I think, were partly to blame. In the 1960s and 70s, surgeons overlooked the trauma patient. We got used to working demanding regular hours, and often not even being physically capable of coming in at 2:00 in the morning, or every Friday and Saturday night. Besides, a steady diet of auto accident victims or stabbings and shootings is not fun.

REECE: *So the concept of a full-time, in-house surgeon outside of a few major centers was not a commonplace happening.*

MUCHA: That's right. A readily available surgeon in residence was essentially non-existent, except perhaps in inner-city university hospitals where it was necessary because of the high volume.

REECE: *Do you believe emergency room care and trauma was "tainted" because it was restricted to the Cook Countys and other inner-city hospitals?*

MUCHA: That hindered its evolution. True emergency care was essentially confined to the "knife-and-gun club" trauma centers of our inner cities. That's part of the trauma problem. Of greater importance today is the magnitude of trauma as a whole. This includes motor vehicle crashes, burns, drownings, falls, and industrial accidents, in addition to the knife-and-gun club type of trauma.

REECE: *What is the extent of the trauma problem compared to other diseases in this country?*

MUCHA: All statistics show trauma is a major health problem. It is an epidemic among the young. Trauma is the leading cause of death between the ages of one and 44; up until age 34, trauma exceeds all other causes of death combined; 150,000 people a year die in this country from trauma. About 50,000 of those are from motor vehicle crashes; another 40,000 to 50,000 are from assaults or homicides; and the remaining 50,000 from an assortment of drownings, burns, and industrial accidents.

The big thing with trauma is that it's primarily a disease of youth and young adults. The highest death rates are recorded in those aged between 15 and 24—our children.

The economic impact of trauma is of a major magnitude, in excess of $118 billion a year, based on 1985 statistics. The trauma care problem can be further expanded when we are talking about industrial accidents, particularly in Minnesota when you include farming accidents. Only seven percent of all machinery is on farms, but 38 percent of machinery-related deaths occur on farms. Conveyor belts, augers, and other heavy equipment are the causes. Trauma's right up there with heart disease and cancer.

REECE: *Outside of the Vietnam*

*experience, what gave trauma a new status in this country? Why this sudden focus of attention on emergency room medicine and trauma centers?*

**MUCHA:** The main focus, the first hint of enthusiasm occurred with the passage of the 1973 federal Emergency Medical Services Act, which provided funding for a nationwide EMS system.

I recall vividly taking part in a Minnesota governor's meeting on emergency care in 1978, as we busily tried to put together our grant application to get federal monies. An amusing sidelight of this effort was that the state was so intent upon obtaining some of these funds that it actually hired a professional consulting firm out of Denver, Colorado. As it turned out, the consulting fees for this expertise exceeded the amount of monies granted.

By the 1980s, federal support for emergency and trauma care faded. But in the past year or two, several bills have been introduced in Congress dealing with trauma center designation.

**REECE:** *Why did those two bills surface?*

**MUCHA:** The benefits were recognized in areas of the country where trauma center designations were made. Statistical evidence shows that an organized trauma system can make a difference in reducing mortality, particularly in cases of reversible trauma.

We still have many parts of our country where trauma care is one of the weakest links in the health care delivery system.

**REECE:** *So you're saying you favor a rational emergency room and trauma care based on organized, federally directed systems?.*

**MUCHA:** That's right. What I'm talking about is that distasteful medical term "regionalization." Although regionalization connotes some degree of government control, it is an essential part of trauma care. And that is, basically, that emergency and trauma care becomes as much a right to the American public, just as police and fire protection is. So it doesn't matter whether you are in metropolitan Twin Cities or on a farm in southwestern Minnesota, when trauma occurs, given a planned system, you as a citizen, or your loved ones, would have access to qualified and optimal care. There would be an EMS system to assure qualified and appropriate prehospital and hospital care. You would be moved on to the appropriate health care facility for your injuries.

**REECE:** *What do you think of the Minnesota "trauma system?"*

**MUCHA:** My opinion runs hot and cold. Thanks to the voluntary efforts of several of the larger centers that have a commitment to trauma care in Minnesota, specifically Hennepin County Medical Center and North Memorial Hospital in Minneapolis, St. Paul-Ramsey Medical Center in St. Paul, our own Saint Marys Hospital in Rochester, and St. Luke's Hospital in Duluth, Minnesota has demon-

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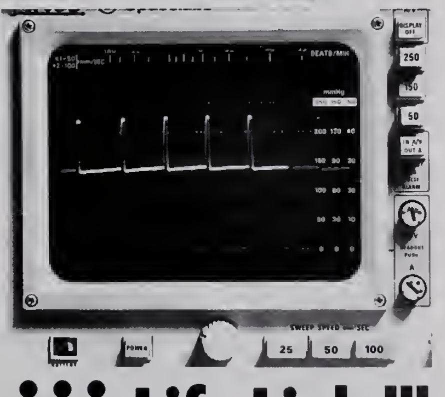

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strated a serious commitment to trauma care.

Unfortunately, we can't do everything as independent institutions. Comprehensive trauma care is something that has to be coordinated by the state, if not the federal government. That's the whole message of the new bills that are pending before Congress. These bills will make monies available to the states to establish statewide EMS systems. States would work with each other as well as adjoining states to get trauma victims to the most appropriate care.

REECE: *Are you optimistic "optimal and appropriate care" will happen?*

MUCHA: More optimistic this year with the federal legislation that's pending, but still pessimistic because of opposition to this concept. In speaking as a trauma surgeon and based upon conversations with my colleagues across the country, there's a universal agreement among us that something is sorely needed to improve trauma care.

REECE: *But from where does this "opposition" arise?*

MUCHA: The main opposition seems to stem from the American Hospital Association. They, like all of us in the medical profession, are fearful of anything that increases regulations and tells them what they have to do. More importantly, anything designating one hospital as being capable of doing something that another can't does tend to turn off most hospital administrators.

> **"Thanks to the voluntary efforts of several of the larger centers that have a commitment to trauma care . . . Minnesota has demonstrated a serious commitment to trauma care."**

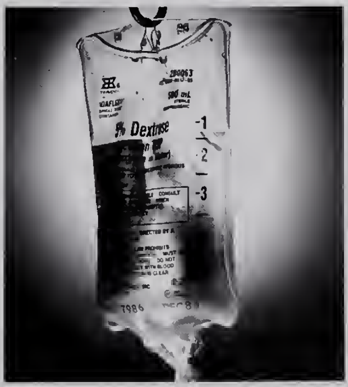
Although Minnesota is often considered a leading example of health care delivery in the country, based on the HMO movement and innovative changes, the health department has been reluctant to get involved with the politics and emotionalism associated with trauma care regionalization.

REECE: *What is the position of the Minnesota health department?*

MUCHA: Until recently, its position has been to allow healthy competition in an attempt to keep down medical care costs. I'm all for healthy competition, but I'm also insistent upon institutions being capable of doing what they say they're capable of doing.

The American College of Surgeons has published its "Optimal Hospital Resources for Trauma Care," which specifies requirements necessary for each level of trauma center.

REECE: *What should be available in a Level I trauma center?*



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MUCHA: In a major comprehensive Level I trauma center, you've got to have everything. This includes available experienced personnel in surgery, neurosurgery, orthopedics, anesthesia, and all the support services. By the way, the only thing really different from a Level I and Level II center is a commitment to research and education. Both designations—Level I and II—imply financial commitment on the part of that institution to have personnel standing around waiting if need be, rather than calling them after something happens. Having surgeons called in is not enough. By the time they get there, it may be too late.

REECE: *But outside of a training program environment, it's financially impossible for an institution to commit to standby personnel, particularly expensive surgeons?*

MUCHA: That's a valid criticism. Most Level I trauma centers are universities or hospitals affiliated with medical schools or training programs. However, examples exist of large metropolitan areas where there are no medical schools, such as Phoenix or San Diego, where the hospitals have made such a commitment.

REECE: *This brings me to the nub of the issue. What is the relationship between the American College of Surgeons and the emergency room physicians organizations? What are we talking about—a struggle to control who manages emergency rooms?*

MUCHA: Obviously, there are differences between the two organizations. But, on the trauma issue, we unanimously agree a trauma care system is essential for optimal care. Both surgeons and emergency physicians are an integral part of optimal care. At most hospitals where the ERs are staffed by emergency room physicians, most are trained in advanced trauma life support and are capable of initiating the basic resuscitative measures so essential to save lives. Unfortunately, they're not trained surgeons and incapable of performing many definitive life- or limb-threatening procedures. On the other hand, they are often the leaders in helping to develop prehospital care capabilities, whether it be land ambulances or helicopters, as well as setting up referral patterns and guidelines between different institutions.

The surgeons work closely with emergency room physicians in most facilities. At Mayo, as a tertiary center, we don't have emergency room physicians. But the fact is that emergency room physicians are located in almost every other hospital in this state and throughout the country. They are an integral part of the trauma care system.

**"In my capacity as a physician or professional involved with trauma care, it's been frustrating in that I, as an individual who is fully aware of the problems, have my hands tied. I have been unable to make any significant advancements or changes in trauma care in this state."**

REECE: *Let's get away from turf battle, and to more fundamental problems. If you don't have a system, and emergency room facilities are uneven, do you have a greater chance of dying if you're in a rural region than if you would have access to a trauma center?*

MUCHA: Yes, you're right on target. There are several studies to support this. The classic one was one that was done by Dr. John West in California in the 1970s. He and his colleagues compared Orange County, California, with 33 different competing hospitals involved in trauma care, with San Francisco. San Francisco has one major trauma center, the University of California, San Francisco. In comparing the two regions, West demonstrated a large number of deaths that should have been avoidable occurring in the Orange County system.

His studies, in turn, led to the development of a regionalized trauma center system in Orange County. Subsequent publications have demonstrated a decrease in reversible trauma deaths from 34 percent to 15 percent. Other studies from San Diego and Washington, D.C., have shown similar reduction in trauma deaths—from 15 to 55 percent—with regional trauma systems.

REECE: *These studies have convinced you that we ought to have a trauma registry?*

MUCHA: Yes. That's what we've been discussing in my capacity as chairman of the Minnesota State Committee on Trauma for the American College of Surgeons with the State Health Department. We need a trauma registry.

We need data to support what I'm saying. I can't honestly tell you how many people actually do die in Minnesota from trauma other than waiting for the motor vehicle accident fatality rate to come out at the end of the year. And I can't tell you about farming accidents or drownings, or suicides, or burns. The need exists for a statewide trauma registry executed by the state health department. We need data. I don't have the authority to go into hospitals and start looking through their records. Someone has to have that authority to find out what's really happening. I can't even tell you how many emergency room visits there are in Minnesota.

REECE: *At lunch, you mentioned that the MADD organization, Mothers Against Drunk Driving, has had a positive impact on trauma care by evoking change. You indicated regional trauma centers also need visible political support.*

MUCHA: In my capacity as a physician or professional involved with trauma care, it's been frustrating in that I, as an individual who is fully aware of the problems, have my hands tied. I have been unable to make any significant advancements or changes in trauma care in this state. By the way, this feeling is not just isolated in Minnesota. This is true of many of my colleagues throughout the United States.

On the other hand, organizations such as MADD or SADD, Students Against Drunk Driving, have been able to arouse the emotions of the public to make change. Physicians as a whole, particularly trauma surgeons, are a small segment of the population. I can write all the letters I want to my congressman and senators, but I'm not going to get much action. I'm only one vote. We need to get the public to understand the problem. Many cases of trauma are reversible if the victims have ready access to qualified care. Unfortunately, most people don't perceive the problem until it affects them personally.

REECE: *Do any other countries in the world have trauma systems you admire?*

MUCHA: Yes. Germany, with a population of 40 million, has had a sophisticated trauma system for 20 years. West Germany, about the size of Minnesota, has something like 40 helicopter systems strategically located. But in Minnesota, with 4 million people, we're talking about a rural setting. It's a different ball game.

REECE: *Under ideal circumstances, what would you like to see happen in Minnesota?*

MUCHA: Under ideal circumstances, we should set up a statewide trauma systems foundation, governed and regulated by the state, with the authority to set up regional care and ensure that hospitals involved with trauma care at the different levels are meeting the criteria as established by the American College of Surgeons.

Another factor is the problem of access. I look back to Pennsylvania and particularly to Maryland, a showpiece for trauma care. Helicopter systems should be something that the state provides, rather than a competitive marketing device between major hospitals. This is especially true of our rural settings, where time is such a critical factor. Not only do helicopters ensure rapid transport on to a major center if need be, but they also enable advanced life support techniques to be instituted earlier.■

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**Notebook** from page 659

building ambulance and helicopter transportation systems to funnel in cases of trauma. North, in short, has capitalized on its location as a referral center from the grid of highways that surround it and as the referral trauma center for northwest Minnesota and beyond. In addition, North Memorial's managers, in conjunction with its physicians, have recognized that humane, quick, and competent trauma care is an asset to private hospitals, as well as to academic training centers. The North approach has created a rivalry between North and other trauma centers, most of which are academic. I am not going to take sides in this rivalry, which is discussed in our trauma feature article this month. But my personal feeling is that room exists for both private and academic entries, even in the most integrated and regulated system.

And finally, this week there was a low-key annual event, the Eleventh Annual Trauma Seminar at Hennepin County Medical Center. Dr. Ernie Ruiz and his staff hold this two-to- three-day seminar each year to educate between 50 and 100 physicians who work in emergency rooms. The influence on emergency medicine of Dr. Ruiz and his colleagues reaches far beyond these physicians. They also accept six new emergency room physicians each year and train over 2,000 emergency room technicians in any given year. Finally, Dr. Ruiz is co-editor of one of the fastest selling academic medical textbooks in the United States, *The Study Guide for Emergency Medicine*.

Given Dr. Ruiz's extensive background (he has run the Hennepin County emergency room since 1971 and is a trained surgeon), I asked him what he thought about the simmering dispute between the American College of Surgeons and the College of Emergency Room Physicians as to who should run emergency departments, emergency room systems, or trauma units. He said he thought the dispute was "silly" because surgeons and emergency room specialists depend upon one another and because it's simply not feasible for any one specialty to control a sprawling and growing system that includes educating emergency room technicians, caring for patients in a prehospital setting, running operating rooms where complex surgery takes place, and managing the logistics of these patients once they are admitted. And the problems aren't getting any easier. Dr. Ruiz observed that the patient volume in emergency rooms and trauma units grows each year, and it's going to require all the energy and cooperation of emergency room physicians and surgeons to keep pace.■

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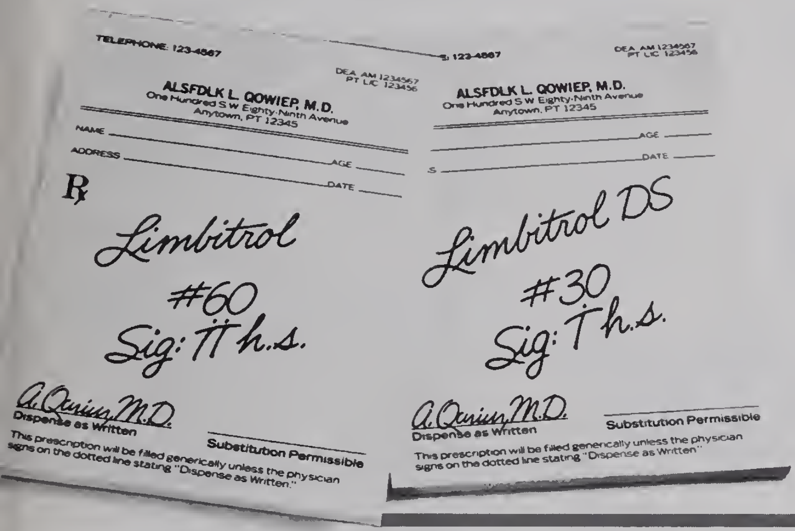
TELEPHONE: 123-4567

DEA AM 1234567
PT LIC 123456

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One Hundred S W Eighty-Ninth Avenue
Anytown, PT 12345

NAME
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DATE

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Limbitrol
#60
Sig: ĭĭ h.s.

A. Quiun M.D.
Dispense as Written
Substitution Permissible

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DEA AM 1234567
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AGE
DATE

Limbitrol DS
#30
Sig: ĭ h.s.

A. Quiun M.D.
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**References:** **1.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Feighner VP, *et al: Psychopharmacology 61*:217-225, Mar 22, 1979.

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**Limbitrol®** Ⓒ IV
**Tranquilizer—Antidepressant**
**Before prescribing, please consult complete product information, a summary of which follows:**

**Contraindications:** Known hypersensitivity to benzodiazepines or tricyclic antidepressants; concomitant use with MAOIs or within 14 days of monoamine oxidase inhibitors (then initiate cautiously, gradually increasing dosage until optimal response is achieved); during acute recovery phase following myocardial infarction.

**Warnings:** Use with caution in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur when used with anticholinergics. Closely supervise cardiovascular patients. Arrhythmias, sinus tachycardia, prolongation of conduction time, myocardial infarction and stroke reported with tricyclic antidepressants, especially in high doses. Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (*e.g.,* operating machinery, driving).

***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations. Consider possibility of pregnancy when instituting therapy.**

Withdrawal symptoms of the barbiturate type have occurred after discontinuation of benzodiazepines (see Drug Abuse and Dependence).

**Precautions:** Use cautiously in patients with a history of seizures, in hyperthyroid patients, those on thyroid medication, patients with impaired renal or hepatic function. Because of suicidal ideation in depressed patients, do not permit easy access to large quantities of drug. Periodic liver function tests and blood counts recommended during prolonged treatment. Amitriptyline may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady-state concentrations of the tricyclic drugs. Use of Limbitrol with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Should not be taken during the nursing period or by children under 12. In elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects. Inform patients to consult physician before increasing dose or abruptly discontinuing this drug.

**Adverse Reactions:** Most frequent: drowsiness, dry mouth, constipation, blurred vision, dizziness, bloating. Less frequent: vivid dreams, impotence, tremor, confusion, nasal congestion. Rare: granulocytopenia, jaundice, hepatic dysfunction. Others: many symptoms associated with depression including anorexia, fatigue, weakness, restlessness, lethargy.
Adverse reactions not reported with Limbitrol but reported with one or both components or closely related drugs: *Cardiovascular:* Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke. *Psychiatric:* Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania, increased or decreased libido. *Neurologic:* Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns. *Anticholinergic:* Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract. *Allergic:* Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus. *Hematologic:* Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia. *Gastrointestinal:* Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue. *Endocrine:* Testicular swelling, gynecomastia in the male, breast enlargement, galactorrhea and minor menstrual irregularities in the female, elevation and lowering of blood sugar levels, and syndrome of inappropriate ADH (antidiuretic hormone) secretion. *Other:* Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.

**Drug Abuse and Dependence:** Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlordiazepoxide; more severe seen after excessive doses over extended periods; milder after taking continuously at therapeutic levels for several months. Withdrawal symptoms also reported with abrupt amitriptyline discontinuation. Therefore, after extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and dependence.

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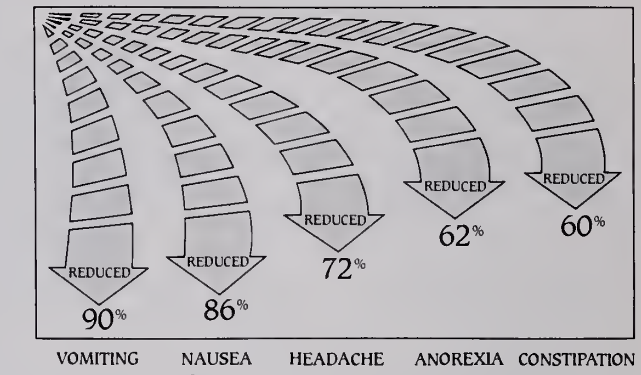
Percentage of Reduction in Individual Somatic Symptoms During First Week of Limbitrol Therapy*



*Patients often presented with more than one somatic symptom.

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# LETTERS TO THE EDITOR

## Comfort for the Grieving

The article by Sarah Saetre, "Making Peace with Death," in the July issue was excellent.[1] She addressed an important concern that has not received enough professional attention.

One recent study, in fact, pointed out that members of our profession do very little to comfort the family after a death.[2] In that survey, only six percent of physicians reported they routinely contact the family after a death and less than 10 percent send cards or flowers, or attend the funeral.

If these survey results accurately represent standard practice, it is unfortunate, because there is much physicians can contribute to smooth the bereavement process. Ms. Saetre points out the value of follow-up office visits four to six weeks after the event, and the value of referrals for counseling and grief support. Other meaningful approaches are also helpful. A simple phone call to the spouse or other family member is very appreciated. More than that, a personal visit to the home, the wake, or the funeral can make a substantial contribution.

A few years ago I wrote an article about attending funerals that generated considerable controversy.[3] The public's response to the article strongly reinforced my belief that physicians have an important responsibility to address needs of the surviving family. We may not always appreciate how important this is to family members—or to ourselves personally—until we experience it. In many cases, the failure to meet this responsibility has resulted in lifelong misunderstanding and guilt among surviving relatives, and deeply held animosity toward our profession.

*Patrick Irvine, M.D.*
*Director, Geriatric Medicine and Extended Care*
*Hennepin County Medical Center*
*Minneapolis, Minnesota*

**References**

1. Saetre S: Making peace with death. Minn Med 71:419-423, 1988.
2. Tolle SW, Elliot DL, Hickam DH: Physician attitudes and practices at the time of patient death. Arch Int Med 144:2389-91, 1984.
3. Irvine P: The attending at the funeral. NEJM 312:1704-1705, 1985.

## Approves New Format

Just a short note and some feedback on the changed format of Minnesota Medicine. I heartily approve of its current direction! I particularly enjoy the face-to-face section and your interviewing style.

The "Clinical and Health Affairs" section remains a weak attempt to publish some original studies, I believe.

How about some theme issues devoted to interesting and wide-ranging topics such as mental health in physicians, addictive disorders, the smoking controversy, retirement concerns, AIDS, unusual lifestyles, etc.

Keep up the good work!

*Robert M. Morse, M.D.*
*Professor of Psychiatry*
*Mayo Clinic*
*Rochester, Minnesota*

## The PRO: Open Season on Physicians?

Kudos to the outstanding and poignant piece by Dr. Dinter ("The PRO: Another Knife in the Heart," Minn Med, September, 1988). This is representative of the chilling experiences being felt throughout the country as open season is declared on physicians, particularly those of us who actually take care of the patients. He appears fearful that the rural physician is at greater risk for such head-hunting than his (her) metropolitan counterpart. Fear not, Dr. Dinter, the metro physicians are equally as disgusted. The fact is that those doctors who have lowered themselves to working for the PRO are usually physicians who can spare the extra time, i.e., are not very busy as clinicians or have totally forsaken clinical medicine for desk-top duties.

At this time most successful clinicians are not doing peer review for one simple reason: the time necessary to do it well is not worth the $25.00 per hour the bureaucrats are willing to pay. If the quality of the review process were as good as the quality of the medicine being reviewed, the Dinter scenario would never occur. When there are literally bounties being paid to bureaucrats for every new physician sanction, coupled with bargain basement reviewers, one obtains our present quality assurance oxymoron.

Ironically, a letter in the same issue by Dr. Thomas Stolee, a pathologist, argues for the role of the pathologist as the ideal peer reviewer. Nothing could be further from the truth; few pathologists have any sense at all for the peculiar stresses of primary care. The clinician should review the clinician, period. Only when there is reimbursement commensurate with the time, expertise, and exposure will quality peer review exist.

Finally, Dr. Stolee's comparison of the health care industry with the auto industry is compelling. He likens the patient to the car customer in search for the best quality at the lowest cost. Let's turn it around: I'd love to walk into a Chrysler showroom (Mr. Califano's company), pick out a car, assign my own price (1978 list), pay 60 to 80 percent of my assigned price, then promise to pay the balance based on how economically the car ran over the next 12 months! I'd guess the demand for Chryslers would go through the roof. I would also guess that if these rules were enforced, Chrysler would have to cheapen its product in order to make ends meet. As physicians, we're not permitted to do that, though. We are charged with the highest ethic of advocating for the welfare of our patients. To police that ethic for $25.00 per hour is a tall order—even for a pathologist.

*Christopher M. Foley, M.D.*
*Maplewood, Minnesota*

## Questions Number of HIV Carriers

The recent article by Hiendlmayr, et al.[1] was interesting and useful. I believe the present estimate of HIV carriers in Minnesota, however, should be questioned. This is an inexact task at best, but an important ongoing challenge in determining public policy. Please note that my questioning of carrier estimates is not meant as any substantive criticism of the article or its conclusions.

There are several ways to compare present Minnesota estimates with other estimates. It is also useful to understand the implication of a given statewide estimate for a particular population.

If we compare the number of AIDS estimated carriers/cases in three different populations, we find a rather high ratio for Minnesota (Table 1). While there are many variables in HIV prevalence for different populations, there should not be a widely variant ratio of carriers/cases by geographic location.

**TABLE 1**
Case and Carrier Estimates (Spring 1988)

| | Cases | Estimated Carriers | Ratio Carriers/Cases |
|---|---|---|---|
| NYC | 15,000 | 200,000-400,000 | 13/1-26/1 |
| U.S. | 68,000 | 1,000,000-1,500,000 | 15/1-22/1 |
| MN | 400 | 10,000-30,000 | 25/1-75/1 |

A second way to think about current estimates is to apply their consequences to the highest prevalence geographic population. Fifty-eight percent of AIDS cases are from the city of Minneapolis. Eighty-seven percent of the cases are males between 18 and 55. If there are 10,000 to 30,000 HIV carriers, then conservatively 5,000 to 15,000 will probably be in the city of Minneapolis. There were an estimated 100,451 males between the ages of 18 and 55 in the city of Minneapolis in 1987.[2] Assume 80 percent of the HIV carriers in Minneapolis are males between 18 and 55. Then 4,000 to 12,000, or one in 25 to one in nine males between 18 and 55 in the city of Minneapolis are carriers of the HIV. I believe these estimates are higher than the true prevalence.

I hope this letter is considered as a contribution in our ongoing efforts to better understand the true nature of this infection and the implications of different estimates of disease prevalence on public policy.

*David Pence, M.D.*
*Minneapolis, Minnesota*

**References**

1. Hiendlmayr TR, Shultz JM: Human immunodeficiency virus diseases in Minnesota. Minn Med 71:495-500,1988.
2. State of the City. City Planing Office.

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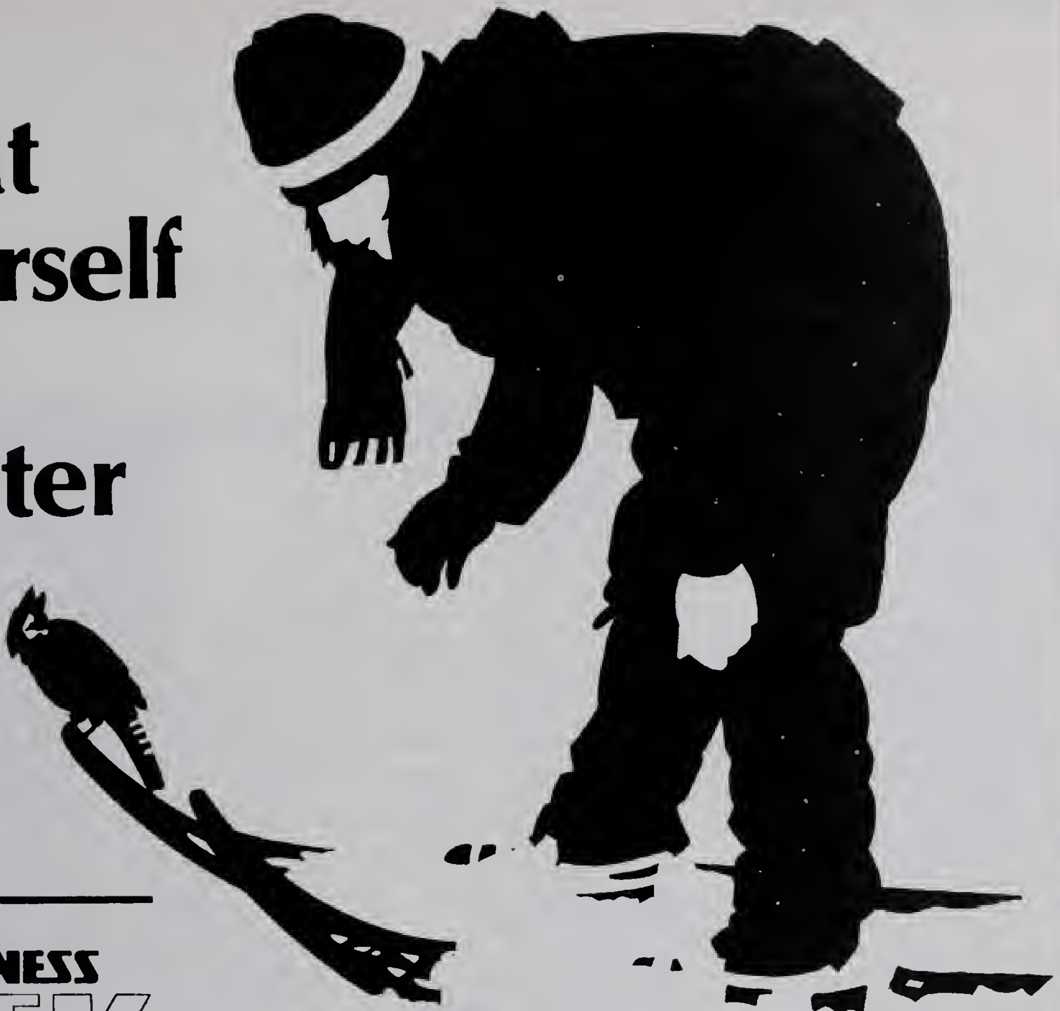

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## Perspectives

# Trauma Categorization in Minnesota

*Ernest Ruiz, M.D.*

Like a monotonous litany, a recitation of trauma's toll on our population goes on and on. Even though Minnesota's fatality rate per vehicle-miles-traveled is among the lowest in the nation, there were 530 deaths resulting from motor vehicle accidents in 1987. Picture 530 people (predominantly between 14 and 40 years of age) in your mind. What a tragedy! The costs of these deaths plus the costs of nonfatal injuries and property damages totaled a staggering $560,432,200.[1]

An average of only 32 percent of drivers wear seat belts in Minnesota. It is unfortunately true that, despite the efforts being made to prevent trauma, there are constantly changing conditions that offset the gains. The increase of highway speed limits to 65 miles-per-hour on rural interstates is an example. The "crack" drug scene in the metropolitan area has greatly increased the numbers of patients with penetrating injuries presenting to trauma hospitals. It seems that trauma will always play a prominent role in our communities, and we need to give it the attention that it demands.

How would trauma categorization help? At first glance the answer is not obvious. This is a rural state with one very populous metropolitan area of 2.3 million people. The Twin City metropolitan area is already served by hospitals with a strong commitment to provide trauma care. Several other small population areas are also well served. These urban hospitals are vying with each other for referrals from rural areas. They need these referrals to keep their programs busy and profitable, so they are offering services to rural hospitals and physicians to heighten their visibility. So why do we need a bureaucratic solution to a need that free enterprise can satisfy?

**It seems that trauma will always play a prominent role in our communities, and we need to give it the attention that it demands.**

My opinion is that a funded agency or other entity, such as that resulting from trauma categorization, is needed in Minnesota to assist in the management of trauma care in all areas of the state. Although the trauma centers in the state are, and will continue providing services to rural hospitals, it is unreasonable to expect that they can afford all the expenses associated with trauma care management. My "wish list" for the responsibilities of a trauma management entity, professional and governmental, is as follows:

► A statewide trauma registry and trauma surveillance system, including enough data to allow the identification of problem areas. The surveillance system should be conducted by physicians for physicians, in the manner of the very successful maternal mortality study of the Minnesota Medical Association and the state health department. These physicians would need access to hospital records, but confidentiality would have to be guaranteed. Legislation may be needed to enable the confidential conduct of this service. The follow-

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ing questions need to be asked: Are response times adequate? Is the care provided in emergency departments timely and well supported with hospital resources? Is definitive care provided in a timely manner?

Virtually all trauma deaths should be autopsied to detect preventable deaths. The system should reimburse county coroners or medical examiners for this service. Where there are problems, the system should focus its resources and efforts. New procedures, technologies, and methods may be found applicable by directed research.

► A statewide network of trauma hospitals strategically located so that every area is served in a timely manner. In some areas there could be a consolidation of resources in one hospital so that the best use of personnel and money can occur. These need not be Level I centers, but they should at least have the commitment, personnel, and resources necessary to stabilize and "package up" the severely injured patient that requires a Level I or II trauma center[2] for definitive care. These trauma hospitals should not suffer monetarily as a result of this commitment. State legislation may be necessary to ensure that proper reimbursement occurs.

Triage
Emergency
Emergency
Triage

- A statewide standard of prehospital care backed up with subsidies where necessary. Many areas do not have the tax base necessary to properly fund an Emergency Medical Services (EMS) system. A portion of every speeding ticket fine should be earmarked for the support of rural EMS.
- A statewide network of the practicing physicians who cover or back up the rural emergency department as part of their community service. This generally overworked and unsung cadre of our rural colleagues deserve perks in the form of tuition costs for educational programs and funding for the many hours of administrative and training time it takes to run an emergency service and an EMS system.
- A statewide network of emergency department nurses with specialized training in trauma management (i.e., the Trauma Nurse Core Curriculum course) subsidized, where necessary, by the system.
- A network of the existing trauma hospitals with Level I and Level II capabilities that would coordinate their statewide efforts in the areas of education, transportation, communication, research, trauma prevention, and quality assurance with the least duplication of effort. Competition for referrals should continue as an inducement to provide as much service to rural physicians and hospitals as possible.

> **Trauma Categorization in Minnesota has the potential for pulling together physicians, hospitals, and EMS systems all over the state to form an effective net for the great benefit of trauma victims.**

Trauma Categorization in Minnesota is a worthwhile goal. It has the potential for pulling together physicians, hospitals, and EMS systems all over the state to form an effective net for the great benefit of trauma victims. I am optimistic that it can occur here without the antagonism between institutions that has typified the process in some other states.

*Ernest Ruiz is the director of the department of medicine at Hennepin County Medical Center.*

**References**

1. Minnesota motor vehicle crash facts 1987, Office of Traffic Safety, Minnesota Department of Public Safety, St. Paul, MN, 1987.
2. Hospital and prehospital resources for optimal care of the injured patient, Committee on Trauma, American College of Surgeons, Chicago, IL 1986.

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# The ''ER'' and its ''Doc'' Have Changed: The Specialty of Emergency Medicine

*Joseph E. Clinton, M.D., F.A.C.E.P.*

The ''ER'' and the ''ER Doc'' are often stereotyped in the minds of the medical profession and the public. The emergency ''room'' is a thing of the past. The ''emergency doc,'' as a temporary or second-career physician, is a nearly extinct species. Modern emergency *departments* are places where sophisticated medical care is available 24 hours a day from emergency physicians who are dedicated to emergency practice and are board-certified in the specialty of emergency medicine. I urge you to put away your biases and read about the development of the twenty-third medical specialty. Minnesota is playing a significant role in these changes.

The roots of emergency medicine lie in the foundation of hospital-based emergency care in the United States. It spans the time from the horse and buggy and hearse-type ambulance eras until the late 1960s and early 1970s, when medical staffing of emergency departments was dictated more by availability and willingness than established competency. It is fairly easy to pinpoint times when forces leading to specialization in emergency care in the United States accelerated. One point was the establishment of the American College of Emergency Physicians (ACEP) in Michigan in 1968. Another was the passage of the Emergency Medical Services (EMS) Act in 1973. The first provided the professional foundation for a new specialty in medicine; the second recognized the need and provided

ROB LEVINE

resources for improvement in emergency care education and equipment, especially in the prehospital area.

ACEP was begun by a few physicians who had dedicated their practice to the emergency department on a full-time basis. Its first annual scientific assembly was held in Denver in 1969. The membership grew rapidly to reach the figure of 12,000 today. Knowledge and skill requirements to work in the emergency department began to receive greater attention as full-time physicians began to practice there. Continuing education courses by the college helped fill some of that need, but it soon became clear that residency programs would be necessary to train physicians for the new specialty.

The first residency program in emergency medicine was established at the University of Cincinnati in 1971. Simultaneously, Dr. Ernest Ruiz was working on the establishment of a program at Hennepin County Medical Center. He began as the residency director of the Hennepin program in 1972 with two residents, a number that grew to four per year by 1974. The Hennepin County Medical Center program is still the only residency in emergency medicine in Minnesota. Currently there are six residents per year graduating from the program. Nationally,the numbers of residency programs has reached 73, each with an average of six graduates per year.

There have been 59 graduates from the HCMC program since 1972. Thirty of them are practicing in Minnesota. Forty-eight are in a community practice of emergency medicine in 16 states. Nine are in an academic emergency medicine practice. Two are no longer practicing emergency medicine.

Initially, the residency programs' length was two years following completion of an internship. Currently the emergency medicine residency length requirement is 36 months. The HCMC program conforms with a 36-month curriculum, and it offers an additional fourth "fellowship" year. A few programs in the country have instituted 48-month programs in the belief that more training time is needed. The typical curriculum for an emergency medicine residency places the resident in the emergency department or in the prehospital care area for at least half of the residency. The remainder of the time is spent on rotation outside the department, often in other specialties such as internal medicine, surgery, pediatrics, orthopedics, obstetrics/gynecology, and others. Most programs have a research requirement of the resident.

**Modern emergency *departments* are places where sophisticated medical care is available 24 hours a day from emergency physicians who are dedicated to emergency practice and are board-certified in the specialty of emergency medicine.**

A total of 326 first-year residency positions in emergency medicine were offered in the National Residency Matching program in 1988. Ninety-nine percent of them were filled, 85 percent of them with U.S. graduates. There were 9.5 applications for each available position, a number among the highest in the specialty match.

The American Board of Emergency Medicine (ABEM) was incorporated in 1976 with the objective of developing a certification examination in emergency medicine. ABEM was officially recognized and accepted as a member of the American Board of Medical Specialties (ABMS) in 1979. The first board examination was administered in 1980. The examination was designed as a two-part process. After passing the written test the candidates were not certified, but were qualified to sit for the oral examination. Part II, the oral exam, consists of simulated patients administered in a standard format by physician examiners who have been formally trained to administer the exam. Each candidate manages several standardized patient encounters to test clinical competence. Only after successful completion of both parts will the candidate successfully complete the examination.

The American Board of Emergency Medicine credentialing requirements did not include a "grandfathering" provision, i.e., no one could be certified without passing both Part I and Part II of the examination. A practice eligibility option for qualifying for the examination was offered with an expiration date. The expiration date for practice type of eligibility was June 30, 1988. Those who had practiced emergency medicine for five years with at least 7,000 hours of experience by this date were eligible to apply to take the examination. The only route now remaining to take the examination is the satisfactory completion of an approved emergency medicine residency.

Since 1980, 6,615 diplomates of the American Board of Emergency Medicine have been certified following successful completion of the examination. Of these, 2,474 (37 percent) were graduates of an emergency medicine residency. In Minnesota, 86 diplomates have been certified; 37 of them are graduates of an emergency medicine residency—27 from the Hennepin program, and the remainder from emergency medicine residency programs in other states.

The certificate awarded by the American Board of Emergency Medicine is a time-limited certificate that is valid for 10 years. The diplomate must take a recertification examination to renew the certificate at 10-year intervals. The first recertification examination will be administered in 1989 to those diplomates certified in 1980.

The emergency physician's practice is a challenging blend of resuscitation, diagnosis, early management, and routine care of patients of all age groups, of both sexes, at all hours of the day, with complaints referable to any organ system. It is carried out in increasingly sophisticated emergency departments with state-of-the-art medical diagnostic and therapeutic techniques, procedures, and instrumentation. No patient can be refused emergency care, regardless of complaint or financial status. The emergency physician must be prepared to work under stressful circumstances with the public, EMTs, paramedics, public safety personnel, the media, and the medical staff of virtually all specialties. Decisions must be made on limited information with patient safety often the pivotal consideration for action.

The medico-legal exposure is significant. Risk management and quality control are major concerns of the emergency physician. No other physician's practice is so open to retrospective review, because no other physician refers or transfers care of all patients. The emergency physician needs to be versatile, knowledgeable, skilled, and diplomatic to do the job.

**No other physician's practice is so open to retrospective review because no other physician refers or transfers the call of all patients.**

The emergency department and the emergency physician have changed over the past 20 years. A sound foundation for the new specialty has been established. The quality of care available to acutely ill and injured patients in the United States and in Minnesota has improved dramatically as a result.

---

*Joseph Clinton is the assistant chief of emergency medicine at Hennepin County Medical Center, the senior physician at Hennepin Faculty Associates, and president-elect of the American Board of Emergency Medicine.*

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# System Issues and Structure in EMS

*Robert Welch, M.D.*

The delivery of prehospital medical care is provided by fragmentary geopolitical entities with ill-defined boundaries of service, training, and authority. From a historical perspective, physicians have been late arrivals at the scene. EMS systems have largely evolved from a combination of individual effort and enthusiasm, public and private sponsorship, and governmental legislation and funding. We are fortunate in Minnesota to have a great number of talented, competent people working at all levels of EMS, but problems do exist and are primarily related to the way EMS is structured. This article will review perceptions of the current EMS system primarily dealing with rural Basic Life Support (BLS) and First Responder models, discuss the impact of change in a complex system, and present the Carver County approach to the involvement of physicians in EMS management with recommendations for statewide organizational changes.

A discussion of EMS systems must begin with identification and definition of the many personnel involved. Table 1 describes the training levels and certification requirements for EMS providers.

## Dispatch

911 calls go the designated Public Safety Access Point (PSAP) and result in the dispatching of appropriate emergency vehicles. Dispatch protocols and designated service areas define who is called. For some areas, PSAPs directly dispatch first responders and ambulance personnel, while in other areas, ambulance companies are notified, and their own dispatchers send out the call to the appropriate unit. Dispatching will usually account for one to two minutes of a total response time. However, in certain areas, the local protocols mandate that only the sheriff is initially dispatched for certain problems (such as motor vehicle accidents). Valuable time is wasted while the sheriff is en route to the scene. Medical personnel are then notified once the sheriff has determined that injuries are present. This system is "efficient" in terms of using only the required

**TABLE 1**
EMS Terminology

PSAP - Public Safety Access Point. This is the initial receiving center for 911 calls. There are many PSAPs located around the state. Calls are then routed to the appropriate emergency provider(s).

EMS - Emergency Medical Services. This phrase is broadly applied to include all components of prehospital emergency care.

AFA - Advance First Aid. This level of training involves 60 hours. It does not include Basic Cardiac Life Support (BCLS) training.

First Responder - This course is a minimum of 40 hours and covers BCLS, basic anatomy and physiology, patient assessment, initial approach to various emergencies, scene management, and transportation. Recertification consists of a 16 hour refresher course every two years. There are no state testing standards.

EMT - Emergency Medical Technician. EMT training requires 110 hours, eight hours of which must be taught by a physician. The clinical material is presented in more depth than for first responders—especially regarding patient assessment. A 10-hour clinical rotation in a hospital or ambulance is part of the curriculum. A 24-hour refresher course, or an equal amount of continuing education, must be completed prior to each biannual recertification. There is a state written and practice examination for initial and recertifying candidates.

EMT-I (I = Intermediate). An additional 52 hours of classroom and clinical training adds to the basic EMT program training in patient assessment, treatment of medical and traumatic emergencies, and technical skills in drawing blood and starting IVs.

EMT-D (D = Defibrillation). This program is 16 hours in addition to EMT training. Cardiac monitoring, rhythm recognition, and manual defibrillation skills are taught.

EMT-P (P = Paramedic). EMT-P training is usually 1,200 hours (minimum 500) and expands the training in anatomy, physiology, and emergency intervention. Fluid therapy, pharmacology, rhythm recognition, telemetry and communications, rescue techniques, and legal issues are added to the curriculum. EMT-Ps must maintain annual BCLS, biannual ACLS, and 48 hours of continuing education every two years.

resources; however, the efficiency is at the expense of patients with airway compromise, respiratory distress, and shock. Since the care of patients with the above problems is a primary reason to have an EMS system in the first place, dual response dispatching is essential. Greg McDonald from Arrowhead EMS in Duluth points out that this is a "silent problem," because ambulances report response time beginning when the ambulance service receives the call from the PSAP. Since ambulance response time data do not reflect dispatch times, our awareness of dispatching problems is limited.

## First Responders

First responders are most commonly organized as a rescue squad of the municipal fire department. As such, the funding is from the city council, and the authority is with the fire chief. In many parts of the state, the sheriff deputies or police serve as first responders. In some communities, a local industry has provided a base for first responder activity.

There are no state laws regulating first responder activities or equipment usage. There is no requirement for physician involvement. There is no state or national examination—all training and "certification" is at the local level. First responders are a somewhat "disenfranchised" segment of the EMS system and are not systematically integrated into the continuum of emergency care. In my experience, the first responder units have functioned very well and very effectively. However, the system is not able to deal with a group that would choose to be autonomous or behave inappropriately. A county or regional EMS organization would not be able to usurp city jurisdiction over police- or fire-based first responders.

Fire departments evolved primarily to fight fires and perform search and rescue. The volunteer time and energy committed to this task is enormous. Rigorous training schedules are devoted to their primary function. It is relatively recent that some formal training in medical assessment and intervention has been added to the primary role. A paradox now exists: nearly 70 percent of many volunteer fire department calls are "medical" in nature, yet the structure and training requirements of the organization remain focused on fire fighting. A further complicating factor has been the difficulty in recruiting and maintaining staffing of the volunteer departments. Many members of small-town departments work elsewhere during the day and are not available for emergency calls. There also seems to be a trend for employers to be less willing to allow their employees time off for emergency calls. On the positive side, more women have become interested in EMS and have greatly aided the ability of rural communities to provide emergency responders.

## Basic Life Support

Basic Life Support (BLS) ambulance

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services are operated by fire departments, city and county governments, hospitals, and private organizations. The state has transportation guidelines that legislate the framework in which BLS ambulances function. Most rural BLS services are staffed by volunteers. As such, many of the problems discussed under the first responder section (staffing and training issues in particular) apply to BLS services as well. By law, ambulance attendants must have a training level of Advanced First Aid (AFA). This training is limited and does not include Basic Cardiac Life Support certification. Most ambulance attendants have EMT-level training. This will soon be the minimum standard for BLS ambulance personnel. Although very appropriate and necessary, the additional time for training and refresher courses places an additional strain on the heavily burdened volunteer—especially if the medical training is in addition to fire training.

A medical *advisor* is mandated by law—to give advice and assist with training, equipment purchases, and so forth. When a BLS ambulance service obtains a variance for an advanced procedure (MAST suit, Esophageal airway, etc.), a medical *director* must be involved. This role assumes responsibility for the care rendered and includes responsibilities for training, quality assurance, equipment usage, and standing orders. The state law defines medical director responsibilities (and liabilities), but does not discuss medical authority. It is up to the individual physician to seek his/her own level of comfort with the organizational performance. Keep in mind that first responders could purchase this same equipment and use it without any physician involvement whatsoever. Some BLS services have many variances—MAST, EOA, IV starts, some medication administration, and defibrillation—and are functioning at near-ALS levels. However, the training of an EMT is far less than that of a paramedic (EMT-P), particularly in the essential areas of patient assessment. The right blend of training level and appropriate procedural intervention has yet to be defined.

Larry Vukov, M.D., of Mayo Clinic is actively involved in the Southeast regional EMS issues. He views the issue as being one of rural communities to ask "What EMS services are reasonable and appropriate (the cost/benefit issue) for a community of our size to offer?" Unfortunately, the medical community does not have a clear-cut answer. Certainly airway management, oxygen, and ventilation are essential. Rapid transportation for trauma and early defibrillation for cardiac arrest are clear consensus opinions in 1988. Beyond that, disagreement becomes the norm. There do seem to be important regional differences. As examples, Dr. Vukov notes that hospitals in southern Minnesota are usually within 10-minute transport times so that training EMTs to start IVs doesn't make sense. In contrast, transport times in northern Minnesota are lengthy, and EMT-I training or use of IM lidocaine may be more logical.

## Physician Issues

With the growth of Emergency Medicine as a specialty and the increased number of physicians in general, more physician involvement in EMS has been possible. The research and professional growth spurred by the specialty focus on emergency care has begun an era characterized by the application of science to the delivery of EMS. Emergency medicine residents will usually get a good exposure to EMS at the ALS level. BLS and first responder involvement is variable. Unfortunately, the primary care residencies provide very minimal exposure to prehospital medicine. Rural emergency medicine is largely practiced by primary care physicians who have learned EMS "on the run" or who have taken CME courses such as the Advanced Trauma Life Support course. Too often physicians accept a role of medical advisor or medical director out of a sense of community responsibility or obligation. This usually leads to frustration on the part of both parties: the ambulance personnel are dissatisfied with lack of physician involvement, and the physician often feels time constrained or ill-prepared to meet the needs of the service.

Fortunately, rural Minnesota has many well-trained, energetic, and innovative physicians who have helped to mold EMS systems to their region. The National Association of EMS Physicians (NAEMSP) and the American College of Emergency Physicians (ACEP) have promoted research in EMS and the exchange of information. The

NAEMSP in particular is developing a database of EMS literature and electronic communication systems between interested physicians. The Minnesota Ambulance Association has sponsored an annual meeting for physicians interested in EMS. A textbook for medical directors is forthcoming from NAEMSP. These and other resources will provide a knowledge base for physicians wishing to expand skills and knowledge in EMS.

## The Effect of Change in a Complex System

A system is defined by Kauffman as "a collection of parts which interact with each other to function as a whole." When evaluating a system, we naturally tend to dissect the system and inspect each component. Often this approach fails to appreciate the importance of the interaction between components. It is the interrelationships that are important and often overlooked.

We refer to EMS as a system, but the component parts function autonomously in many respects. As discussed in the first section, first responders and EMTs operate from fire departments, city police departments, county sheriff offices, and/or private industry. First responder training and testing is not standardized. There is no state law controlling the first responder practice. BLS ambulance services are regulated by the state as discussed above. The scene becomes more complex by adding ALS and aeromedical services to the rural EMS model. The common denominator is the provision of prehospital emergency medical services, but medical care is not the basis for first responder organizational structure. There is no "medical control" over fire or police department first responder activity or dispatch protocols. This is also true for fire-department-based BLS ambulances that operate without variances.

After stating the above, it is imperative to note that there are many dedicated, competent fire- and police-based first responders and EMTs working harmoniously with other EMS providers. I am continually impressed by their time commitment, enthusiasm, and energy. Their individual commitment and personalities have overcome the schizophrenia of the system. These healthy situations are due to having a shared goal of optimal patient care. Alignment with this goal has diminished the impact of separate organizational structures. Unfortunately, this is not universal. In some areas, the various departments do not communicate or solve problems well—and there is no system for conflict resolution. As a result, patient care suffers. The greatest challenge in EMS is the development of a cohesive, intergrated system of providers operating under medical direction.

**Nearly 70 percent of many volunteer fire department calls are "medical" in nature, yet the structure and training requirements of the organization remain focused on fire fighting.**

This structure does not need to be centralized and monolithic. In fact, this would likely be devastating. One large cell cannot accomplish what millions of small cells, organized in systems, can. On the other hand, systems can become unstable with growth beyond a certain limit unless higher levels of system organization are created. This higher level of organization is also imperative to the survival of the system when the components of the system compete for resources. If one component overpowers another, and both components are important—who wins? The system has failed to manage its limited resources, and the system as a whole suffers.

What are the limited resources that must be managed? The two primary resources are money and people. Funds must be made available and distributed to provide training and equipment and to cover operational expenses and payroll. People must be recruited and trained. As volunteers they must experience growth, recognition, and personal satisfaction (à la Maslow) to make the time commitment worthwhile.

Two examples of "new technology" that have entered the EMS arena show the importance of the issues just mentioned. First, the automatic external defibrillator (the common use of "external" seems superfluous—not many people would accidently use this device internally!) has become a tool for rural EMTs and first responders. With a relatively small amount of training time, the computerized defibrillator can be used to provide early electrical intervention in cardiac arrest to ventricular fibrillation and may increase survival statistics from a baseline of five percent to 40 percent. Funding has usually come from community fundraisers, donations, or public safety/fire department's budgets. The addition of this technology has given EMTs/first responders an additional source of pride and recognition, and the satisfaction of saving lives. The survivors are transported by ground and/or air to hospitals for further care. All components of the system are utilized and may benefit economically. No component of the system suffers, unless one makes an illogical conclusion that ALS becomes less important.

In contrast, adding helicopter services has a complex effect on the EMS system. The thrills of "MASH" with the yuppie comforts of home are seemingly too much for any red-blooded emergency provider to resist. Aeromedical transport clearly offers the potential to save the life and/or limb of a critical patient by rapid transport to a high-resource facility. Many perceive the helicopter as simply a positive addition to the EMS armamentarium. However, many secondary structural changes occur in the system as a result of helicopter usage. Some of these changes include:

► Use of helicopters for marketing hospital services. State law prohibits ALS ground units from advertising or attempting to market services outside of the defined primary service area. There is now inconsistency in the system, with aeromedical ALS taking on a role previously thought inappropriate for ALS services.

► Changing referral patterns. This causes increased competition between referral centers. The outcome may be good, bad, neutral, or all of the above. It potentially places the growth of tertiary referral care in the marketing departments rather than a centralized EMS agency. It's always been that way in Minnesota, except that the "marketing" was passive and based on perceived quality of care and individual physician communications.

► Threats to BLS. Low-volume BLS may be dependent on the few long transports for economic survival. The loss of these runs to aeromedical services may threaten the existence of basic EMS transportation. High volume noncritical services may suffer due to the emphasis on care of the occasional critical patient. There is also the potential for the volunteer to lose a sense of community respect and worthiness. No value judgments here—but there is a need for a higher level of organization to make decisions that affect the whole. Variations of this issue exist where helicopter and ALS services overlap and where BLS and ALS overlap.

► Strengthening of outstate medical centers. As a response to the metro-medical-magnetism facilitated by aeromedical transportation, some outstate medical communities have recruited needed specialists and reorganized to provide trauma and critical medical services locally rather than routinely refer to the cities.

► "Shifting the burden to the intervenor." This last comment is more theoretical than apparent at this point in time. The concern is that local systems will become dependent upon aeromedical services and lose the motivation to maintain good local resuscitation, stabilization, and transportation capability. Helicopters are not always available and, if available, may not be able to fly due to weather conditions. Local EMS systems need to be nurtured and improved, and they need to use

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**CONTRAINDICATIONS**
There are no known contraindications to the use of sucralfate.

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**Drug Interactions:** Animal studies have shown that simultaneous administration of CARAFATE (sucralfate) with tetracycline, phenytoin, digoxin, or cimetidine will result in a statistically significant reduction in the bioavailability of these agents. The bioavailability of these agents may be restored simply by separating the administration of these agents from that of CARAFATE by two hours. This interaction appears to be nonsystemic in origin, presumably resulting from these agents being bound by CARAFATE in the gastrointestinal tract. The clinical significance of these animal studies is yet to be defined. However, because of the potential of CARAFATE to alter the absorption of some drugs from the gastrointestinal tract, the separate administration of CARAFATE from that of other agents should be considered when alterations in bioavailability are felt to be critical for concomitantly administered drugs.

**Carcinogenesis, Mutagenesis, Impairment of Fertility:** Chronic oral toxicity studies of 24 months' duration were conducted in mice and rats at doses up to 1 gm/kg (12 times the human dose). There was no evidence of drug-related tumorigenicity. A reproduction study in rats at doses up to 38 times the human dose did not reveal any indication of fertility impairment. Mutagenicity studies were not conducted.

**Pregnancy:** Teratogenic effects. Pregnancy Category B. Teratogenicity studies have been performed in mice, rats, and rabbits at doses up to 50 times the human dose and have revealed no evidence of harm to the fetus due to sucralfate. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

**Nursing Mothers:** It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when sucralfate is administered to a nursing woman.

**Pediatric Use:** Safety and effectiveness in children have not been established.

**ADVERSE REACTIONS**
Adverse reactions to sucralfate in clinical trials were minor and only rarely led to discontinuation of the drug. In studies involving over 2,500 patients treated with sucralfate, adverse effects were reported in 121 (4.7%).

Constipation was the most frequent complaint (2.2%). Other adverse effects, reported in no more than one of every 350 patients, were diarrhea, nausea, gastric discomfort, indigestion, dry mouth, rash, pruritus, back pain, dizziness, sleepiness, and vertigo.

**OVERDOSAGE**
There is no experience in humans with overdosage. Acute oral toxicity studies in animals, however, using doses up to 12 gm/kg body weight, could not find a lethal dose. Risks associated with overdosage should, therefore, be minimal.

**DOSAGE AND ADMINISTRATION**
The recommended adult oral dosage for duodenal ulcer is 1 gm four times a day on an empty stomach.

Antacids may be prescribed as needed for relief of pain but should not be taken within one-half hour before or after sucralfate.

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**Reference:**
1. Eliakim R, Ophir M, Rachmilewitz D: *J Clin Gastroenterol* 1987;9(4):395-399.

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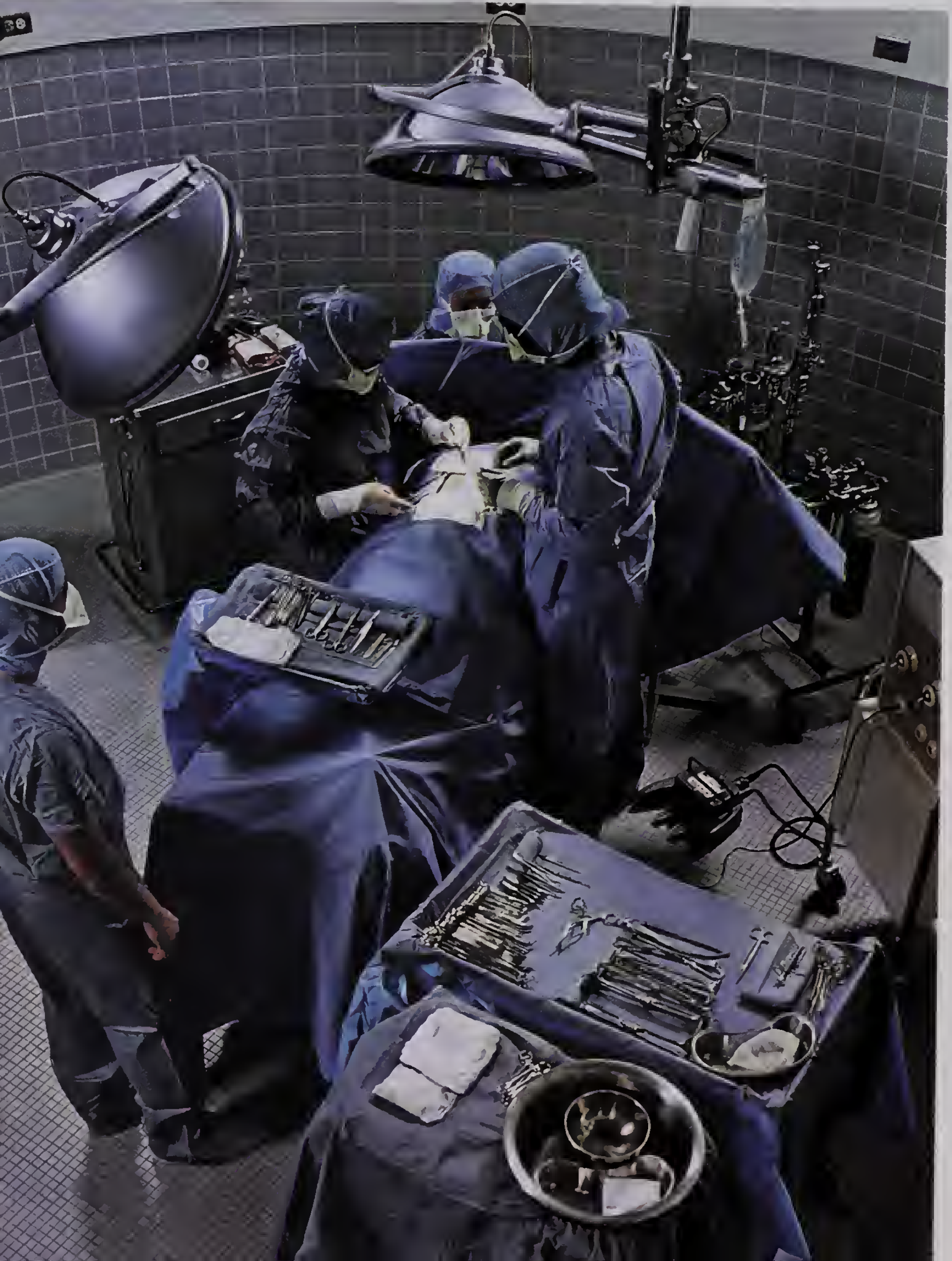

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aeromedical services when appropriate.

The above comments are intended to review the secondary structural changes in the EMS system. The advantages of aeromedical transportation in selected patients is not being disputed. There are many examples of situations where the helicopter should be utilized and is not summoned. The primary point is that one cannot change a complex system in just one way. The system pushes back and attempts to obtain equilibrium. Some changes are good and some are bad—and our opinion as to which is which depends on where we reside within the system. The regulating forces seem to be the economic and competitive marketplaces, hospital strategic plans, the FAA, and the medical direction within each helicopter service. If the discussion was about widgets, the control is probably best left to marketplace forces. When dealing with EMS systems, there should be a higher level of organization to buffer system changes driven by the marketplace to ensure that appropriate EMS care is available throughout the state. The Minnesota Department of Health was stripped of authority to regulate aeromedical helicopter utilization by an FAA ruling. This is inappropriate. Likewise, it is inappropriate for first responders to operate autonomously. The system needs integration and coordination.

## A Model

With a grant to Carver County Community Health Services from the State Department of Health in 1986, Carver County accelerated its planning for systems management in EMS. Some of the components are outlined below:

**Implementation phase:**

► Hiring a paramedic liaison and EMS medical consultant to CHS. The paramedic liaison facilitates communication between first responders, medical advisors, and CHS. This individual also organizes run reviews and oversees data collection. The physician medical consultant communicates with the medical advisors, CHS director, and the county commissioners. Data are reviewed and interpreted, and recommendations are made to CHS.

► Recruiting and training primary care physicians to serve as medical advisors to first responders units. Currently there are fire department-based first responders in each community. Written standing operating protocols are established for first responders.

► Organizing and communicating with first responder, BLS, and ALS medical advisors/directors.

> **One cannot change a complex system in just one way. The system pushes back and attempts to obtain equilibrium. Some changes are good and some are bad—and our opinion as to which is which depends on where we reside within the system.**

► Implementing a countywide data-collection system that includes first responders (and a first responder run form developed by Greg McDonald from the Arrowhead EMS Association).

► Annual report to Carver County EMS Committee and Board of Health (Commissioners) with statistical reports, identified problems, and recommendations.

**Additional Recommendations:**

► Support legislation to mandate medical accountability by all providers of prehospital medical care.

► Encourage municipalities to budget separately for first responder services—just as for police and fire. Considering the issue of staffing, training, and equipment in each community, evaluate what options exist for delivering first-rate emergency care.

► Establish a role of EMS Medical Consultant (or advisor, director, etc.) for area-based EMS systems. This could be CHS-based, as in Carver County, or could be defined along other boundaries.

► Convene regional EMS meetings of EMS medical consultants, preferably along with ambulance personnel, first responders, public safety, and appropriate administrative representation.

► Use representatives of the regional groups to meet regularly as an advisory group to the State Department of Health, with the State EMS Medical Director as chair. This group would support needed legislative changes on an ongoing basis.

► Develop a statewide data-collection system.

► Promote EMS training for physicians in the state medical schools and primary care residencies.

## Summary

The delivery of prehospital emergency medical care is accomplished by a large number of individuals and groups that have very limited organizational cohesiveness. The natural tendency is to deal with issues on an individual-event level and to react to changes in the organization that arise from within or outside of the system. An organizational structure needs to be developed to integrate the numerous components of EMS and deal with issues from an overall system perspective. The delivery of prehospital medical care needs to be under medical control—regardless of whether the individual provider is based in the fire department, public safety office, private business, municipal government, or hospital.

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## Crisis in Emergency Rooms

# More Symptoms Than Cures

*Robert Reinhold*

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It was only 6 o'clock on a recent Saturday night when the busiest emergency room in downtown Los Angeles, at the California Medical Center, ordered all ambulances diverted to other hospitals. The 13 beds were already filled: a woman delivering a baby, a boy with an asthmatic attack, a 6-year-old girl bleeding from apparent sexual abuse, a young man hurt in a car accident and, the last straw, a 48-year-old man in full cardiac arrest.

When quiet returned three hours later, the emergency director, Dr. Alan Heilpern, told a sadly familiar story: six of the 13 patients were "066's," hospital code meaning they had no medical insurance or other means of paying.

Hospital officials say that state reimbursements for treatment of indigent patients is inadequate and that the institution is hemorrhaging $500,000 a month through its emergency room.

### A Century of Service

The hospital, which has served central Los Angeles for a century, decided to shut its emergency room doors to ambulances beginning Monday, August 1. Patients who can get to the emergency room by other means will be treated.

The closing, which faces government and court challenges, could touch off a crisis in emergency care

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in Southern California of proportions unknown in a major American city. It could leave the vast central area of Los Angeles with no nearby emergency room.

While some health experts say basic inefficiency and local politics worsen the Los Angeles situation, many say it portends a nationwide decay of emergency care.

"Los Angeles is a harbinger of what is very likely to happen in the rest of the country," said Dr. Michael J. Krentz of Dallas, president of the 12,000-member American College of Emergency Physicians.

### Progress and Paradoxes

The Los Angeles crisis reflects a wrenching paradox in an era that has seen vast improvements in emergency care, steps that have saved thousands of lives in cases of accident or illness.

Professional paramedics now ride in many ambulances, and hospitals in many regions are designated as "trauma centers" that can handle major disasters, with specialists, special equipment, and blood supplies on hand at all times.

But this costly system is deteriorating, an unintended result of efforts to control rising medical costs. Rates of reimbursement to hospitals and doctors by Medicare, Medicaid and private insurers have been pushed down as they have been based more on diagnosis rather than actual treatment or hospital time. Hospitals say they find it impossible to shift costs to compensate for charity patients, and hospital occupancy rates have fallen.

Adding to the strains are a shortage of nurses, doctors' protests over increases in malpractice insurance rates, rivalries between hospitals, and political tensions involving paramedic services, doctors, and city, county, and state governments.

### Trouble in Fort Worth

Signs of stress are growing nationally. In Fort Worth, Texas, for example, the county-sponsored John Peter Smith Hospital has regularly shut its emergency room this summer because it lacks enough intensive-care beds and nurses. Patients were being held in the emergency area for up to four days.

In Miami, seven of eight hospitals have given up their designation as special trauma centers, citing losses. This has put a large burden on Jackson Memorial Hospital.

And in Massachusetts, which has led the nation in providing a state-run insurance pool for the uninsured, many hospitals are often overloaded and forced to transfer patients.

### Outlook Worst in Los Angeles

But nowhere is the system threatened with such collapse as in the Los Angeles area, where 27 percent of all non-elderly adults and 30 percent of all children have no health insurance.

California Medical, a private, nonprofit hospital that has received about 800 ambulance runs a month, says that as of August 1 it will shut its emergency room to ambulances.

Unless the state intervenes in the next few days to prevent it, California Medical's action is likely to be followed by nearby hospitals fearful of being overloaded by indigents.

Ambulances from downtown would have to travel many extra miles through freeway traffic to county hospitals like the Martin Luther King/Drew Medical Center and County-University of Southern California Hospital, which are already overloaded, understaffed, and underequipped.

"People will literally die in the streets and in their offices," said Dr. Brian D. Johnston, emergency director at White Memorial Hospital. "You'd be better off having a heart attack in Mexico City than in Los Angeles."

Dr. Kenneth W. Kizer, director of the state Department of Health Services, said millions of people stand to lose access to emergency care. He is trying to negotiate a solution, but he says the strapped state government has little money to help.

Meanwhile, efforts to build a national network of regional trauma centers have stalled. A report last month in *The Journal of the American Medical Association* said 29 states have not even started

**"People will literally die in the streets and in their offices. You'd be better off having a heart attack in Mexico City than in Los Angeles."**

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designating trauma centers and only two, Maryland and Virginia, have fully operational systems.

In Los Angeles, seven of 23 trauma centers have dropped out of the special network, citing financial losses. In 1987, 55 trauma hospitals in California reported losses totaling $131 million, mostly because of indigent and uninsured patients.

### New York is a Focus

In New York City, the study found that only one-third of critical trauma patients were taken to the eight top-level trauma centers there. The implication was that many New Yorkers are dying as a result, since other studies have shown that one-third of trauma deaths in non-designated hospitals were preventable.

The New York State Department of Health, however, said that it plans to institute a new procedure by next year by which Emergency Medical Service paramedics can take patients directly to designated trauma centers. "This system significantly will cut the time from injury to treatment and save many lives," said Faith Schottenfeld, a spokeswoman for the health department.

"When ability to pay gets in the way, we see needless death and disability," said Dr. Howard Champion, chief of trauma services at the Washington Hospital Center in Washington.

He said those unable to pay who need major surgery or other costly services are frequently shuffled off to county hospitals even if that means losing the critical "window of opportunity" when such surgery can be helpful.

### Texas Problems Are Addressed

"We know these things happen," Dr. Champion said. "If you cannot pay, you will get worse and worse service."

Even access to ordinary emergency care has become more difficult. Faced with an increase of 1,000 patients a month and a cutback of 100 beds because of a nursing shortage, Houston's Hermann Hospital last month approved policies for transferring patients.

Last year, Florida experienced an emergency-care crisis when doctors protested over malpractice suits. That crisis has eased, at least in part because of a law passed in February requiring that an expert witness vouch that a cause for action exists before a malpractice suit can be filed. Still, the safety net is thin. In fast-growing Broward County, north of Miami, the number of neurosurgeons available for emergency services has dropped sharply in the past decade.

Massachusetts, in passing the nation's first universal health insurance law last spring, went a long way toward alleviating the problems of caring for people who have no insurance. Still, a recent study of 85 of the state's 106 acute-care hospitals by the Massachusetts Hospital Association found that nearly a third of the emergency rooms were overloaded at least once a week.

### State is Cutting Back

But California presents the most

"Lots of people will die, and then some celebrity, an entertainer or a politician, will have a car accident on the Harbor Freeway and won't be able to get help soon enough. Out of that will come a new health-care law."

urgent problem. Under a fiscally conservative Republican Governor, George Deukmejian, the state's Medi-Cal program for the poor has become the least generous program of any state except Mississippi, Alabama and West Virginia. Last year, the Governor vetoed special financing to bolster the Los Angeles system, saying it was a county problem.

As a result, hospitals in the Los Angeles area are rebelling. Over the last two years, 15 hospitals in Los Angeles County have closed or downgraded their emergency rooms.

The linchpin in the remaining system is California Medical. The 344-bed hospital serves a huge inner city population that is heavily Mexican-American and black. Administrators say nearly one-third of the 2,500 emergency patients a month have no insurance. They said the hospital last year was not paid for emergency services for which it would have billed nearly $8 million.

If the hospital shifts on August 1 to "standby status," meaning the emergency room will remain open, but not to ambulances, at least two other nearby hospitals, Good Samaritan and French, say they will too. County and city health authorities are preparing contingency plans to transport patients to other hospitals. Business leaders are fearful of the consequences for tourism and conventions.

## Not Just 'Poor' Problem

Even now, the network is strained. "On a Friday or Saturday night, it is not unusual to have 17 or 18 hospitals all closed, beginning in the central city and fanning out," said Virginia Price Hastings, chief of paramedic and trauma hospital programs for the county.

"Many people mistakenly think this a problem for the poor," she said. "But if there is no emergency room, it is not there for anybody. If the wealthiest person in the state is at a conference downtown and has chest pains, he will be taken to a county hospital."

The big county hospitals are expecting 1,000 or more runs a month. Already they are overwhelmed. At Martin Luther King, in south central Los Angeles, the ambulances are often lined up five deep. On one recent Saturday night, four gunshot victims lay for hours on gurneys in the corridors before being treated.

Whether California Medical can restrict its emergency room legally is unclear. Dr. Kizer, the state health director, said that he would refuse an application to downgrade the state-licensed facility, and the issue is likely to wind up in court. Dr. Kizer has invited the hospital to renegotiate its Medi-Cal rates, but the hospital said that will not provide enough additional income.

## Complaint Is Filed

Meanwhile, a complaint has been filed against California, Samaritan, and French hospitals by the National Health Law Program, the Legal Aid Foundation of Los Angeles, and the Western Center on Law and Poverty. It charges that the closures will endanger the lives of the poor and, in the case of California Medical, violate the agreement under which the hospitals accepted federal construction grants in return for caring for indigents.

Michelle Barker, spokeswoman for California Medical, said that the hospital accepted $998,000 in construction money in 1980 under the Hill-Burton Act and has since given $3 million in care in return.

Assemblyman Mike Roos of Los Angeles has entered a bill to provide $20 million to augment county health budgets, and another to provide $40 million to shore up the trauma network.

Senator Alan Cranston and Representative Jim Bates, both California Democrats, have introduced bills to authorize $60 million a year for three years in matching funds to encourage states to set up trauma systems.

But experts say the whole emergency network will continue to crumble until there is a long-term remedy to the problem of uncompensated care.

"We absolutely need a long-term solution," said Dr. Gary Krieger, past president of the Los Angeles County Medical Association. "Lots of people will die, and then some celebrity, an entertainer or a politician, will have a car accident on the Harbor Freeway and won't be able to get help soon enough. Out of that will come a new health-care law."■

ROB LEVINE

## Trauma Systems

# Where Does Minnesota Really Stand?

Michael P. Moore

In emergency rooms across the country, victims of violence and accidents are said to be dying needlessly of injuries that should have been diagnosed immediately and operated on expediently in hospitals qualified to treat trauma. Yet even qualified trauma centers are closing their doors to critically injured patients. In Dade County, Florida, the trauma network has lost six of its eight hospitals because of physicians' liability fears. And in Orange County, California, seven of 23 trauma centers have closed because of a 35 percent nonpayment rate.

On the contrary, in Minnesota hospitals are fighting to get into or stay in the trauma system. North Memorial Medical Center, in Robbinsdale, just opened a $5 million expansion of its trauma center. And at the state's largest provider of indigent care, Hennepin County Medical Center, state medical assistance keeps the nonpayment rate at about 15 percent. Also, a general satisfaction with medical care in the state keeps almost all patients from blaming bad outcomes on their caregivers, and from retaliating with litigation.

Minnesota's trauma system seems to be working well, at least on the surface—and in the air, with emergency helicopters constantly buzzing to and fro. Yet Minnesota was recently one of the 29 states criticized for not having a formally designated and evaluated trauma system. The criticism came in an article titled "Trauma Systems: Current Status—Future Challenges," published June 24 in the *Journal of the American Medical Association.* The lead author, John West, M.D., is a California member of the American College of Surgeons Committee on Trauma. In a subsequent interview with the Star Tribune, he described Minnesota's trauma system as a "crapshoot."

The article by West, et al., was based on a survey of state emergency medical service directors and state chairpersons of the ACS Committee on Trauma, and West, et al., concluded that only two states, Maryland and Virginia, have all the essential components of a regional trauma system. Twenty other states either lack complete coverage by designated centers or lack one or more of the essential components of a regional trauma center. And 29 states, including Minnesota, have yet to begin formally designating trauma centers.

The JAMA article seems to have been timed as a "shot across the bow" of the states lacking a formal designation system for regional trauma centers. Federal legislation being considered by both houses of Congress would mandate state designation based on the ACS criteria for three levels of trauma centers (Table 1). A committee in the House of Representatives has

MARY
CHARGE

approved bill HR3133, "The Trauma Care Systems Planning and Development Act of 1988." And a Senate committee has approved a similar bill called "The Emergency Medical Systems and Trauma Care Improvement Act of 1988." Both bills hold out a monetary carrot: increased federal funding for emergency services and trauma care, but only to states with a formal trauma care designation system based on the ACS criteria.

The hospital industry is supporting an opposition bill in the Senate that would provide more funding for preventive services such as ambulances and communication systems, but that would not mandate state designation of trauma centers.

Prompted by the well-published problems of some urban trauma systems, the federal legislation is intended to fill the nonpayment gap while improving trauma care across the board. And understandably, the government wants some quality assurance for its money. That quality assurance is state designation of trauma centers according to a professional set of guidelines. Minnesota, despite its lack of obvious trauma care problems, cannot at this point provide such quality assurance.

Minnesota does, however, have a starting point. An informal trauma care network is left over from statewide efforts in the 1970s. Like the current push for organized trauma systems, those efforts were spurred by the promise of federal money. Unfortunately, the amount of funding that finally filtered down

**"Saying you're a trauma center sounds good, but if there is no one there at two a.m. when a patient hits the door, it doesn't do any good."**

ROB LEVINE

to trauma centers proved disappointing, according to two Minnesota participants in early designation efforts.

"In 1978, Governor Perpich sponsored a 'Governor's Day for Emergency Medical Services,' " says Peter Mucha, director of emergency medical services at Mayo-affiliated St. Mary's Hospital in Rochester. "The state went ahead and hired a consulting firm to write a federal grant application, and I think more was spent on the application process than Minnesota ended up getting for its emergency services."

Patrick Lilja, director of emergency medicine at North Memorial Medical Center in Robbinsdale, agrees. "If you figured out the expense of my time and all the other people who testified during that process, it would probably come out to be more than we got in federal funding."

Some regional coordination did arise from assessments of Minnesota's trauma services during the 1970s. Certain community hospitals were selected to stabilize trauma patients, and, if necessary, refer them to hospitals such as St. Mary's in Rochester, St. Luke's in Duluth, and St. Luke's in Fargo. In the Twin Cities area, the Metropolitan Council suggested in 1978 that Hennepin County Medical Center and St. Paul-Ramsey Medical Center be designated as regional trauma centers; University of Minnesota Hospital be a referral center; and Mercy, Unity, North Memorial, Methodist, Fairview Southdale, and St. John's serve as area trauma hospitals. The ACS guidelines were slightly different at that time, but they were followed fairly closely in making these designations.

When federal funding for emergency medical services stopped in the early 1980s, trauma center designations became voluntary. There were no longer any qualifying criteria to be a trauma center. In some cases they were made a marketing tool in the era of competitive medicine.

"In the 1980s, with the emergence of HMOs and competitive medicine, the designation process fell by the wayside a bit," Mucha says. "Competition was allowed to take over, with the idea that it would lead to high quality and low costs. It may do that in some areas of medicine, but I'm afraid we don't have that in trauma care; we probably have an appalling state of trauma care in Minnesota. Saying you're a trauma center sounds good, but if there is no one there at two a.m. when a patient hits the door, it doesn't do any good."

Mucha, who is Minnesota's state chairperson on the ACS Committee on Trauma, argues that having four or five trauma centers in one met-

ropolitan area defeats the quality and cost-efficiency purposes of the designation process. Like West, he asserts that to provide high-quality and cost-effective trauma care, only a few centers can be Level I or II trauma centers, and their qualifications need to be verified by an outside agency such as ACS.

Lilja agrees that not every hospital can or should be a trauma center, but he points out that "you can name on two hands the number of hospitals in Minnesota doing serious, acute trauma. I would argue that throughout the state, trauma patients are routinely diagnosed by very competent local doctors—not all the time, but most of the time—and are being sent to hospitals that have the capabilities to handle their problems. And in the metro area, not every hospital is trying to do acute trauma care. They don't complain when the ambulance drives by their door with a gunshot victim."

Lilja is a member of the AMA Emergency Medical Services Commission, which he says will soon publish new standards for trauma center categorizations that are very close to the ACS criteria. He is leery, however, of making these types of voluntary professional guidelines into federal requirements. "I think the ACS guidelines in a lot of respects make sense; I also think that in some ways they're self-serving," Lilja says. "In other words what they've done to some extent is take a look at the people on their committee on trauma and see what their hospitals have, and then write the requirements to fit. When you start taking a private group that has a self-serving interest like ACS, and start making [their criteria into] federal legislation, there is room for abuse. I also think there is room for abuse when hospitals self-designate themselves as trauma centers and then don't put the money into emergency care."

Mucha and others in Minnesota see the pending federal legislation as an opportunity for the state to improve trauma care at all levels, and to connect with national groups to make sure it stays that way. "It is as much a right to have quality emergency care as it is to have quality police and fire services," Mucha says. And the stakes are high, with lost years of productivity and life greater for accident victims than for all major diseases combined, he says.

**"When you start taking a private group that has a self-serving interest like ACS, and start making (their criteria into) federal legislation, there is room for abuse."**

"The purpose of the federal legislation in my understanding is to encourage the states to have a coordinated statewide system for trauma care, as opposed to individual communities or areas solving it independently and duplicating efforts," says Arthur Ney, director of trauma services at Hennepin County Medical Center (HCMC).

"Everyone focuses so much on the level I centers, but I think this is an excellent opportunity to upgrade the emergency capabilities of rural hospitals," Ney says. "Most community hospitals can develop a system to the point of becoming a level III center, which is very dedicated to trauma and can give very excellent trauma care. A small percentage, on the order of 5 to 10 percent of those patients injured, after being stabilized at a level III center, can be transferred to a higher level center if that is found to be necessary."

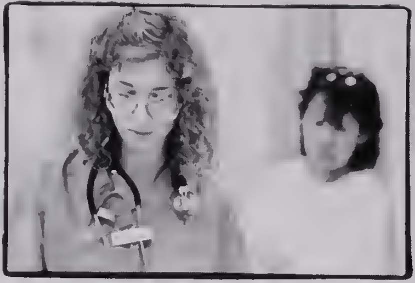
Ernest Ruiz, director of the department of medicine at HCMC, agrees. "There's unfortunately somewhat of a feeling that if it ain't broke, don't fix it. But there is room for improvement in Minnesota. Our approach has been education, ever since General Hospital was started. But there's still a long way to go. There are still many physicians, nurses, and EMS personnel to train in this state."

## What is Optimal?

The ACS criteria are quite specific, except for the requirement for "optimal trauma patient care." Ney says that optimal trauma care will depend on a state's geography and population distribution, which will affect the ability of ground or air ambulance systems to transport accident victims to appropriate facilities. "I think in general Minnesota's care is very good, and even more rural areas of the state have good ambulance services that are tied into medical centers that can handle trauma."

But there is a major public misperception about Minnesota's three air ambulance systems: Life Link III, which is sponsored by Abbott Northwestern Hospital, St. Paul-Ramsey Medical Center, and the University of Minnesota Hospital and Clinic; Mayo One, sponsored by the Mayo Clinic; and the helicopter service sponsored by North Memorial Medical Center. Because of the marketing efforts linking helicopter services to their sponsors, most people assume that if an accident victim is picked up by a helicopter, that patient will be transported back to the sponsoring hospital. That is only true if the helicopter picks up the patient at the accident scene, which is very unusual. "For the most part in this state it's a hospital-to-hospital transfer. It's the referring physician's option [where] to send the patient,'' Ruiz says.

Lilja says problems can arise when a physician requests that a patient be transferred to a hospital that is not well equipped to treat that patient's injuries. In a few cases, suggestions by physicians at the sponsoring center may be interpreted as competitive meddling, he says. ''We prefer to handle it by educating referring physicians about each center's strengths before a situation arises,'' Lilja says.


ROB LEVINE

**''It is as much a right to have quality emergency care as it is to have quality police and fire services.''**

Lilja says that optimal trauma care requires rapid patient transport, with no more than 10 minutes spent at the site, except in extraordinary situations, such as a crash victim trapped in a car or a shooting scene in which the gunman prevents intervention. Next, a physician must be available to see the patient quickly and be able to identify whether the patient needs acute surgical intervention or other treatment. If that physician is in a small hospital, he or she must be able to identify the patient who requires diagnostic or surgical expertise that is not available locally. A major trauma center must support the necessary diagnostic and surgical facilities, and must make the commitment to staff them fully, 24 hours a day.

''When you look at the criticism West had about Orange County, the people who were dying were patients who came into the hospital with ruptured abdominal viscera, and either the injury was not recognized or they were not operated on in an expeditious manner,'' Lilja says. ''West bases his criticisms on what happened in Orange County and in some other areas of the country. That is, when people are hurt, they are taken to the closest hospital, regardless of the medical staff and in-house capabilities of that hospital. I don't think anybody would disagree that in a case like that, if you have physicians who don't know how to diagnose trauma, bad things are going to happen. And if you don't have surgeons available to operate, bad things are going to happen.''

But in Minnesota, Lilja says, ''patients are not being taken to the closest hospital, they're being taken to hospitals that have developed systems and made relatively large commitments in terms of staffing to take care of and handle acute trauma. West says we haven't done the study to prove that, and maybe he's right. Maybe we should.''

Clearly, that's what is lacking in Minnesota and many other states: a scientific evaluation of outcome among trauma patients. West, et al., encourage states to involve outside professionals in reviewing hospital records and autopsy data to evaluate regional trauma care.

Much of that data could come from Minnesota's major trauma centers, which have their own internal review systems. These systems start with accident reports by emergency personnel, and include data such as trauma severity score (TSS) and Glasgow coma score, which are evaluated by paramedics and/or emergency room staff. Ideally, these scores could be used by paramedics or physicians to decide when a patient needs to go to a major trauma center, and the data could be used to evaluate the appropriateness of patient transfer decisions.

Unfortunately, a recent analysis shows that the TSS ''is about worthless in terms of predicting which patients need to be referred to tertiary centers and which patients don't,'' Lilja says. He cites a presentation (''The Inability of Prehospital Trauma Prediction Rules to Classify Trauma Patients Accurately''; not yet published) at last year's meeting of the University Association for Emergency Medicine by William G. Blaxt, M.D., of the University of California, San Diego. ''San Diego has been doing trauma scoring longer than anyone else in the country,'' Lilja says.

More reliable data are available later, however. If the patient has been hospitalized for several days, physicians or nurses compile an injury severity score (ISS), which is a complicated anatomic description of injuries and their sequelae. Centers such as North Memorial, Hennepin County Medical Center, and St. Paul-Ramsey Medical Center compile a trauma registry data bank that includes information such as time spent at the scene, time to get to the operating room, what service admitted to, ISS, and length of hospital stay, to evaluate their own care. ''Any patient who died that the ISS says shouldn't have died'' is automatically reviewed by the medical staff, Lilja says.

West advocates the use of autopsies to evaluate deaths from trauma injuries. In Minnesota, however, only the medical examiner can authorize an autopsy, and there is a limited budget for such procedures. ''I think that for anybody who's admitted and dies in the hospital, unless it's a massive head injury, you could make a very strong case for doing an autopsy to find out what happened,'' Lilja says. Ruiz points out that Vermont has done autopsies to evaluate trauma deaths for many years. ''It would provide us with a lot more data regarding the epidemiology of trauma and what sort of injuries are occurring throughout the state and what people are dying of," Ruiz says.

If such an evaluation were comprehensive and objective enough, it might also answer some of Minnesota's stickier issues in trauma care. Those issues center on the 24-hour staffing requirement for emergency and trauma personnel. Keeping a complete diagnostic and operative staff, including a trauma surgeon, in-house and ready for duty around the clock requires a huge commitment in budget and facilities. Everyone agrees that it's the ideal, but is it necessary?

Lilja questions the need to have a surgeon in-house, rather than on call and within 15 to 20 minutes of the hospital. He also questions the ACS criteria that allow a senior resident to qualify as that surgeon, rather than a board-certified surgeon. "I think it would be interesting to do a study to see if anybody in our system has had an adverse outcome because of the inability to get a surgeon there in a timely manner. And that includes the hospitals that have residents in [rather than staff surgeons], to see if there have been any adverse outcomes because the residents got into trouble before the staff surgeon arrived or because the staff surgeons were not available."

Mucha stands by the ACS guidelines that a trauma surgeon be there when the patient arrives at the emergency room. "With trauma, 90 percent of the time there is hemorrhaging and very often there is brain or organ injury; the patient needs surgery right now. At St. Mary's, as it should be at any level I center, I can take a patient right from the ambulance to the OR and be operating in two minutes," Mucha says.

## Take It to the Public

The final step in West, et al.'s, trauma scheme is for states to communicate to the public the need for statewide classification and outside verification of the three levels of trauma centers. Ney views this as an opportunity for Minnesota to put another feather in its health-care cap. "As of June, only three centers in the nation had gone through the ACS verification process to be Level I trauma centers, and we believe we have at least three centers in Minnesota that qualify at that level. This is also an opportunity to develop an entire trauma system for the state, and to upgrade the capabilities of rural hospitals. We have the opportunity as a state to get in on the ground floor of what is likely to be a national movement in quality emergency and trauma care," Ney says.

Ney and Ruiz urge, however, that in promoting the quality of Minnesota's trauma centers, we not lose sight of the vastly more effective power of prevention. "We equate trauma with the word accident," Ney says. "Well, many of these aren't accidents, they're injuries and deaths that could have been prevented by seat belts, by motorcycle helmets, and by not drinking and driving. The legislature may have far more impact on saving lives than any trauma center or trauma system ever could." ■

ROB LEVINE

## CLINICAL & HEALTH AFFAIRS

# State of the Art: Poison Centers in Minnesota

*Cynthia Morris, R.Ph., and Louis Ling, M.D.*

**Poison centers are an integral part of emergency care provided directly to the public and to health care professionals. In order to use their service to fullest advantage, it is important to understand their background, their capabilities, and, most importantly, their limitations.**

### Historical Perspective

In 1953, a survey of pediatricians by the American Academy of Pediatricians revealed a need for easily accessible current information on the toxic ingredients in common household products, since 51 percent of all pediatric poisonings were attributed to accidents with such products. The first poison control center in the U.S. was started in Chicago on a trial basis with the goal of developing a loose-leaf guide to the ingredients in common household products and the treatment of poisonings with these products. The program was highly successful and served as a model for programs that later developed across the country.

It soon became apparent that there was a duplication of effort between all of the centers nationally, so in 1957, the U.S. Public Health Service established the National Clearinghouse for Poison Control Centers to collect and distribute product ingredient information and tabulate the experience of poison centers. The following year, the American Association of Poison Control Centers (AAPCC) was organized to set standards for poison center operations, help develop educational materials for health professionals and the public, and support the development of centers organized on a regional basis, thus concentrating the expertise in a smaller number of larger centers. It was estimated that 60 to 70 regional poison centers could adequately serve the entire country.

In Minnesota, Commissioner of Health Warren Lawson set up the Department of Health Poison Information Service with 26 separate, hospital-based poison information centers in 1954. Unfortunately, the resources were limited, personnel had no specialized training or experience, and only a few developed. The state legislature passed the Minnesota Poison Information Act in 1980, which initially desig-

POISON CENTER
WAITING ROOM REST ROOMS
INPATIENT ADMISSIONS

ROB LEVINE

**TABLE 1**
1987 poisonings in Minnesota

| Type of Exposure | Number | Percent |
|---|---|---|
| Accidental | 45,192 | 83.3 |
| Occupational | 1,100 | 2.0 |
| Environmental | 145 | 0.3 |
| Misuse | 951 | 1.8 |
| Unknown | 43 | 1.8 |
| Intentional | | |
| Suicidal | 3,468 | 6.4 |
| Misuse/Abuse | 1,316 | 2.4 |
| Unknown | 546 | 1.0 |
| Adverse Reactions | | |
| Drug | 291 | 0.5 |
| Food | 1,037 | 1.9 |
| Other | 35 | 0.1 |
| Unknown Reason | 122 | 0.2 |
| **TOTAL** | **54,246** | **100** |

nated the Hennepin Regional Center at Hennepin County Medical Center and, in 1982, the Minnesota Regional Center at St. Paul-Ramsey Medical Center as the official state centers. Since 1986, both hospitals have been designated by the health department and are among the 36 nationally certified as AAPCC regional poison control centers. In 1987, the state poison centers managed a combined annual volume of more than 54,000 cases (Table 1), which resulted in 20 known deaths (Table 2).

## Poison Center Services

When physicians call poison centers, they will receive advice on the symptoms to expect, the typical time course, diagnostic tests that may be helpful, and indications and dosing for up-to-date and specific treatments, including the use of antidotes, heavy metal chelation, and multiple-dose charcoal. Drugs can be identified from the markings on the tablets or capsules. Information on drug interactions, pregnancy and lactation, and toxicity of some homeopathic medications can also be provided.

In meeting the AAPCC criteria for a regional center, the professional staff of poison information specialists provides information 24 hours a day, 365 days a year, to health care providers and the public. These professionals—either nurses or pharmacists—have special training and work fulltime in toxicology. Most have passed the national examination to be certified as a specialist. They maintain a vast array of comprehensive poison information resources, including a library of textbooks, journals, and computerized databases, and an on-line communication system that links the local center to national resources. Specialty consultants, such as board certified physician medical toxicologists, veterinarians, herpetologists, and mycologists are available on-call, so staff can consult with them if necessary. Callers can be referred to other agencies, such as the environmental protection agency, health department, or consumer protection agency when appropriate.

Education programs are an important aspect of the program. The Hennepin Regional Poison Center uses "Poisonality," a 17-minute videotape that reached 8,000 elementary school children in 1987. Puppet presentations were given 227 times at preschools, nursery schools, and day care cen-

**Poison** *to page 706*

**TABLE 2**
1987 poison deaths in Minnesota

| Age | Sex | Substance | Intentional/Accidental | Acute/Chronic |
|---|---|---|---|---|
| 21 | M | Carbon monoxide | Intentional suicide | Acute |
| 35 | F | Carbon monoxide | Intentional suicide | Acute |
| 39 | M | Carbon monoxide | Intentional suicide | Acute |
| 42 | M | Carbon monoxide | Intentional suicide | Acute |
| 30 | F | Cocaine | Intentional abuse | Acute |
| 49 | F | Cocaine | Intentional abuse | Acute |
| 36 | M | Methamphetamine | Intentional abuse | Acute |
| 19 | F | Norpramin | Intentional suicide | Acute |
| 28 | M | Doxepin | Intentional suicide | Acute |
| 34 | F | Asendin | Intentional suicide | Acute |
| 15 | F | Tylenol | Intentional suicide | Acute |
| 24 | ? | Aspirin<br>Valproic acid | Intentional | Acute |
| 48 | F | Sedatives | Intentional suicide | Acute |
| 73 | F | Xanax<br>Halcion | Intentional suicide | Acute |
| 27 | F | Stelazine<br>Pamelor<br>Cogentin | Intentional suicide | Acute |
| 81 | F | Theodur | Accidental | Chronic |
| 33 | M | Methanol | Intentional misuse | Acute |
| 61 | F | Sinemet<br>Parlodel | Intentional suicide | Acute |
| 22 | M | Inhaled carpet adhesive | Unknown motive | Acute |
| 27 | M | Unknown drug | Intentional suicide | Acute |

# The Helicopter and the EMS System

*Daniel G. Hankins, M.D., F.A.C.E.P., and R. J. Frascone, M.D., F.A.C.E.P.*

**A helicopter was first used to evacuate a patient in Burma in 1945. Since then, the helicopter has played an increasingly important role in medical evacuations. Some 20,000 patients were evacuated by helicopter in Korea. More than 370,000 wounded were transported by helicopters in Vietnam between 1965 and 1969. It has been estimated that more than one million lives have been saved by helicopter transport in the last 40 years.**

**There are currently more than 150 aeromedical helicopter systems in the United States. The number of systems is growing at a rate of about 10 percent per year. Three systems currently exist in Minnesota: Life Link III, jointly owned and operated by Abbott Northwestern, St. Paul-Ramsey, and University of Minnesota hospitals; Mayo One, operated by Mayo Clinic; and North Air Care, operated by North Memorial Medical Center. All of these services are committed to providing quality critical aeromedical care. The three services have mutual aid agreements to provide backup for each other to try to ensure a helicopter where and when it is needed. So far about 5,000 patients have been transported by helicopter in Minnesota.**

**Helicopter response is not all flash and glitter. Aeromedical services fill a substantial need in the EMS system, as described below.**

AMBULANCE
PARAMEDIC UNIT
Life Link III

PETER BECK

## The Trauma Epidemic

There are about 45,000 to 50,000 traumatic injuries in Minnesota each year, of which 6,000 to 7,000 are severe in nature. Most trauma patients can be taken care of in community hospitals, but about five to 10 percent need a regional trauma center with its more extensive resources.[1] Since most ambulance services in Minnesota offer only basic life support, these care-intensive patients would place a burden on the local ambulance service to provide the necessary treatment during transfer to another location. Also, long-distance ground transport may leave the home community with less than optimal ambulance coverage for that time period. Helicopter transport brings advanced life support skills to the scene or the community hospital. As McKenzie said "It can bring tertiary care to the referring hospital . . .. For the moment, the referring hospital has tertiary care facilities."[2] Baxt found a 21 percent decrease in expected mortality for severe trauma patients when helicopter transport was used rather than ground transports.[3] The number and types of interventions are higher with rotor wing than even paramedic advanced life support (ALS) ground transport. As can be seen in Table 1, the personnel on the helicopter bring another higher layer of care.

Although a large number of cases arise from motor vehicle trauma, there are many other types of trauma that call for helicopter transport. Serious burns, sick or premature neonates, pediatric emergencies, high risk obstetrical cases, cerebrovascular accidents, and acute myocardial infarctions are other valid reasons to call in the helicopter. Kaplan demonstrated that transport of the acute myocardial infarction patient is safe.[4] In this rapidly developing era of thrombolytic agents, helicopter transport is an expeditious way of bringing thrombolytics to the patient, and transporting a crew that is used to dealing with these agents and getting the critically ill patient with cardiac ischemia to the referral hospital. The helicopter is an efficient way of transporting any medical, pediatric, surgical, or obstetrical emergency requiring immediate, sophisticated, tertiary care.

To help with decision making, Champion has some guidelines for when to call in the helicopter for trauma (Table 2). When used in the proper setting, the helicopter can have a significant impact on patient morbidity and mortality.

## Activating the Helicopter Transport System

All three helicopter systems in the state have toll free numbers to ensure easy access. If the patient is

**TABLE 1**
Ground Versus Rotor Wing Skills (varies with service)

| EMT | Paramedic | Aeromedical |
|---|---|---|
| CPR | CPR | CPR |
| Advanced First Aid | Advanced First Aid | Advanced First Aid |
| MAST | MAST | MAST |
| HARE | HARE | HARE |
| | EOA | Oral/Nasal Intubation |
| | IV Therapy | Cricothyroidotomy |
| | (Fluid Replacement) | CVP Lines |
| | (Limited Drugs) | |
| | Endotracheal Intubation (some) | Swan Ganz Catheters |
| | | Arterial Lines |
| | | Pacemakers |
| | | (Transvenous) |
| | | (Transcutaneous) |
| | | Tube Thoracostomy |
| | | Balloon Pumping |

-Adapted from Baxt, *JAMA* 1983

**TABLE 2**
Helicopter Transport Decision Rules (Champion)

The helicopter should be used for patient transport under any of the following conditions:

URBAN/SUBURBAN ENVIRONMENTS

- Transport time to the trauma center greater than 15 minutes by ambulance
- Ambulance transport impeded by access to or egress from the accident scene
- Presence of multiple casualties

RURAL ENVIRONMENT

- Time to local hospital via ambulance greater than the time to trauma center via helicopter
- Wilderness rescue

Champion: Emergency Care Quarterly 1986

already at the hospital, aeromedical transport is only a phone call away. Physicians, nurses, paramedics, EMTs, police, fire, first responders, and their respective dispatchers can put any of the helicopters on standby (and launch then, if necessary) if they have a potential for need. It does not cost the patient anything if the patient is not transported. Even if the helicopter crew is at the scene or referring hospital and helps attend to the patient, no cost is passed on to the patient unless transported. In this day of monetary difficulty for small ambulance services, it may be hard for the service to provide care at the scene for victims and yet not be paid because the helicopter then transports. Many helicopter systems reimburse the ambulance service for their costs at the scene if the helicopter then transports from the scene.

The Minnesota Helicopters have sophisticated radio equipment that allows transport personnel to communicate with local authorities on police, fire, and EMS radio frequencies to assist in approach and landing. Securing a landing area is the most important factor in safety at a helicopter response area. The complete procedure for securing a scene to prepare for transport is beyond the scope of this discussion; however, each of the helicopter services readily provides instruction in securing areas. They also can supply placards imprinted with reminders of necessary procedures to secure a scene.

## Costs

Helicopters and helicopter services are not cheap, but the true costs are difficult to fathom, as is the cost-effectiveness of helicopter-transport. As Burney has stated: "Just how much helicopter programs are actually adding to overall health care costs is impossible to determine, because it is impossible to estimate the savings that might result from their activity as a result of more efficient care, reduced morbidity, and better regionalization of expensive services."[5] The competition of three services in this area has given these services a keener edge as far as service and costs.

## Safety

All three helicopter services in Minnesota ascribe to the standards of the American Society for Hospital Based Emergency Aeromedical Systems (ASHBEAMS). This organization requires that services have adequate numbers of pilots, adequate rest for pilots, adequate equipment, and stringent rules for weather conditions for missions. Most aeromedical accidents occur under borderline weather and visibility conditions. The systems in Minnesota use a simple but important rule: the pilot never is informed of the patient's condition before deciding if the mission is to be done. The decision is based solely on flying conditions. In this way, pilots do not feel pressured to attempt borderline missions because of the severity of the patient's condition. This rule provides a significant, positive safety advantage. The three Minnesota aeromedical transport services are extraordinarily safety conscious and prudent about flying and maintenance.

## Summary

Helicopter aeromedical transport has a role in the EMS system that is still being defined. It can lower mortality rates in severe medical and trauma patients by bringing a medical intensive care unit to the patient and transferring that patient back to the referral hospital at two to three times the speed of a ground ambulance. Helicopters are also useful in dealing with patients who are otherwise inaccessible. Any community in Minnesota, and surrounding areas, can now have access to rapid and excellent critical care transport. The decision to use the helicopter to transport depends upon the severity of patient illness or injury (or the potential severity), local resources available to deal with the situation, and the distance to a hospital that can provide a higher level of care. When used in the proper setting, the helicopter can have a significant impact upon the morbidity and mortality of critical patients.

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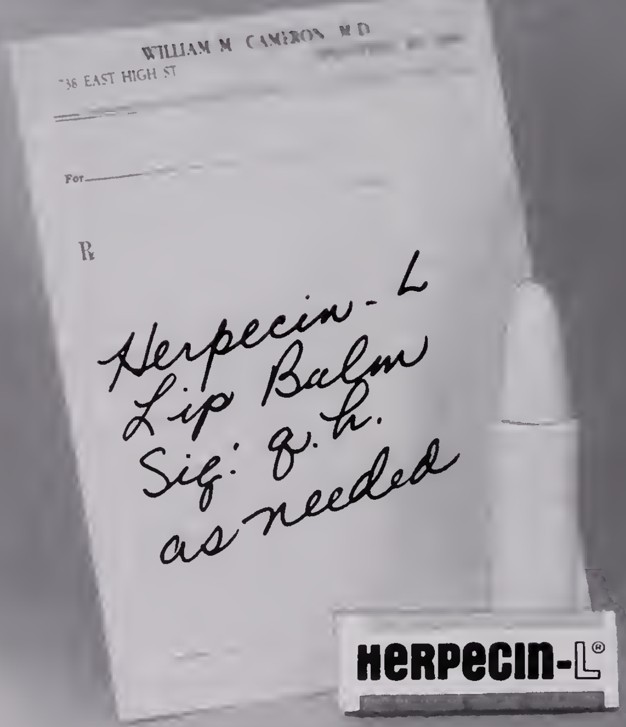
**Dx: recurrent herpes labialis**



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# Polytrauma Care: The Current Role of the Orthopedic Surgeon

*David C. Templeman, M.D., and Ramon B. Gustilo, M.D.*

**Trauma remains the leading cause of death among Americans between the ages of one and 38 years, with many of these deaths secondary to motor vehicle accidents. Musculoskeletal system injuries are common in motor vehicle accidents, and to address the management of these complex fractures, orthopedic traumatology has evolved as a distinct subspecialty. The development of injury severity scores has created a method to relate the severity of injuries with mortality and morbidity rates, and has further established the importance of long bone fractures in the survival of patients with multiple system injuries. Long bone fractures and immobilization adversely affect survival rates, even after successful resuscitation. This implies that the orthopedic management of these fractures might in part reduce mortality and morbidity rates of patients sustaining multiple injuries. Several studies utilizing injury severity scoring have compared the benefits of immediate long bone fracture stabilization in increasing survival rates of patients with multiple system injuries. The advantages of early fixation of long bone fractures in the management of polytrauma patients are reduction in mortality, adult respiratory distress syndrome, fat embolism, and pneumonia. In order to achieve optimal results in polytrauma patients, it is necessary to have an orthopedic department dedicated to immediate fracture stabilization. These studies have established that orthopedic traumatology is an essential component in the management of patients with multiple system injuries and long bone fractures.**

## Case History

Following a high speed motorcycle accident, an unconscious 20-year-old female was transported to a local emergency room where multiple system injuries were recognized. The patient was intubated, and with the administration of intravenous crystalloid, vital signs were stabilized. Further examination revealed the patient to be unresponsive and to have sustained multiple extremity fractures. Hennepin County Medical Center was notified, and our helicopter was dispatched. On arrival in the emergency room, assessment revealed stable vital signs and adequate oxygenation, but she was unresponsive. The Glasgow coma scale was six. Standard roentgenograms of the cervical spine, chest, and pelvis disclosed a right hemothorax. Additional findings included mandibular and multiple lower extremity fractures. An emergent head CT scan did not disclose any focal lesion.

The patient was taken to the operating room where the neurosurgery services performed a ventriculostomy, and the ENT department stabilized the mandible.

The orthopedic team then reexamined the patient (initial emergent exam and splinting had been conducted in the emergency room), first noting the presence of stabilized vital signs, good oxygenation, and normal coagulation studies. The following injuries were diagnosed: right and left femoral shaft fractures, an open right Grade III tib-fib fracture, and a right ulna fracture. The identification of these injuries established an injury severity score (AIS-85) of 50. Proceeding in the operating room, orthopedics consulted with the general surgical anesthesiology and neurosurgical services. Our recommendation was immediate fixation of all long bone fractures. All other departments concurred that the patient's condition allowed further surgery.

We proceeded with irrigation and debridement of the open tib-fib fracture followed by external fixation and four compartment fasciotomies. Fasciotomies were indicated for: 1) intraoperative monitoring problems during subsequent surgery, and 2) postoperative monitoring difficulties due to the severe head injury. We then performed reamed intramedullary nailing of both femoral shaft fractures followed by open reduction and internal fixation of the ulna fracture. Postoperatively, the vital signs were stable, the chest X-ray was unchanged, adequate urine output had been maintained, and arterial blood gases revealed pH 7.52, $CO_2$ 22, and oxygen 130 with 40% $FIO_2$. The patient was extubated on the ninth postoperative day and transferred to a rehabilitation ward four weeks following her injury. She was discharged to her home ten weeks following the injury, ambulating with assistance.

Trauma is the leading cause of death among Americans between the ages of one and 38 years. In the early years of this decade, estimates are that 165,000 people died and twice as many were permanently disabled every year as a result of injuries. Among young whites, 40% of deaths were caused by motor vehicle accidents.[1] The musculoskeletal system is the most commonly injured organ system in motor vehicle accidents, and high-speed accidents are the predominate cause of complex fractures.

To address the management of complex fractures, orthopedic traumatology has evolved as a distinct subspecialty. Improved research in the areas of fracture biology, mechanics of internal fixation, and clinical fracture care have dramatically expanded treatment alternatives. We will review the developments that have defined the importance of fracture management as a part of trauma care.

The development of injury severity scores in the early 1960s created a method to relate the severity of injuries with mortality and morbidity rates, in essence establishing an injury dose response curve.[2] As a research tool, injury severity scores also permit for the comparison of different treatment philosophies and systems of trauma care.

Minnesota is a predominantly rural state, and even in the Twin Cities the incidence of penetrating trauma is low in comparison to other U.S. urban centers. Most trauma at our center is defined as blunt and is caused by motor vehicle accidents.[3] (Table) Blunt trauma studies indicate that of the different organ systems injured, the injuries of the extremities are the most common, followed by injuries of the head, thorax, abdomen, and pelvis.[4,5] Goris retrospectively evaluated the courses of 89 fatalities from blunt trauma. Motor vehicle accidents were the predominate cause of injury and death (87%). In the first week following injury, 55% died secondary to brain injuries, hemorrhage, or pulmonary failure.[4] It is hoped that advances in emergency delivery systems, resuscitation techniques, and neurosurgery will continue to reduce the number of early deaths and increase late survival. Late deaths occurred in 44% of the study group, and 88% of these were due to sepsis associated with multisystem organ failure. The distinguishing feature of the group dying late was the presence of more extremity injuries.[4,5]

Mechanism of injury
329 multiple trauma cases
Hennepin County Medical Center

| | |
|---|---|
| Automobile | 32% |
| Pedestrian vs. MVA | 26% |
| Motorcycle | 15% |
| Falls | 14% |
| Bicycle | 3% |
| Assault | 3% |
| Gunshot | 1.5% |
| Misc | 5.5% |

The operative management of many fractures now achieves results superior to those possible with conventional techniques of immobilization (plaster and traction). The current techniques of plate and screw fixation (Swiss AO group) and intramedullary nailing (Kuntscher, Germany) were largely developed in Europe. Following the early success of these surgical methods, European trauma surgeons began to perform fracture fixation as part of the early care of polytrauma patients.

Contrary to accepted dogma, the extra operative procedures did not increase patient mortality or morbidity but led to improved survival rates and reduced morbidity. Riska, in stabilizing long bone fractures, reduced the incidence of fat embolism syndrome from 22% to 4.5%. With the addition of mechanical ventilation to internal fixation as part of the early care of these patients, the incidence of fat embolism syndrome was decreased to 1.4%.[6]

**FIGURE 1A, B, C - Initial roentenograms of a 20-year-old sustaining multiple injuries in a motorcycle accident.**

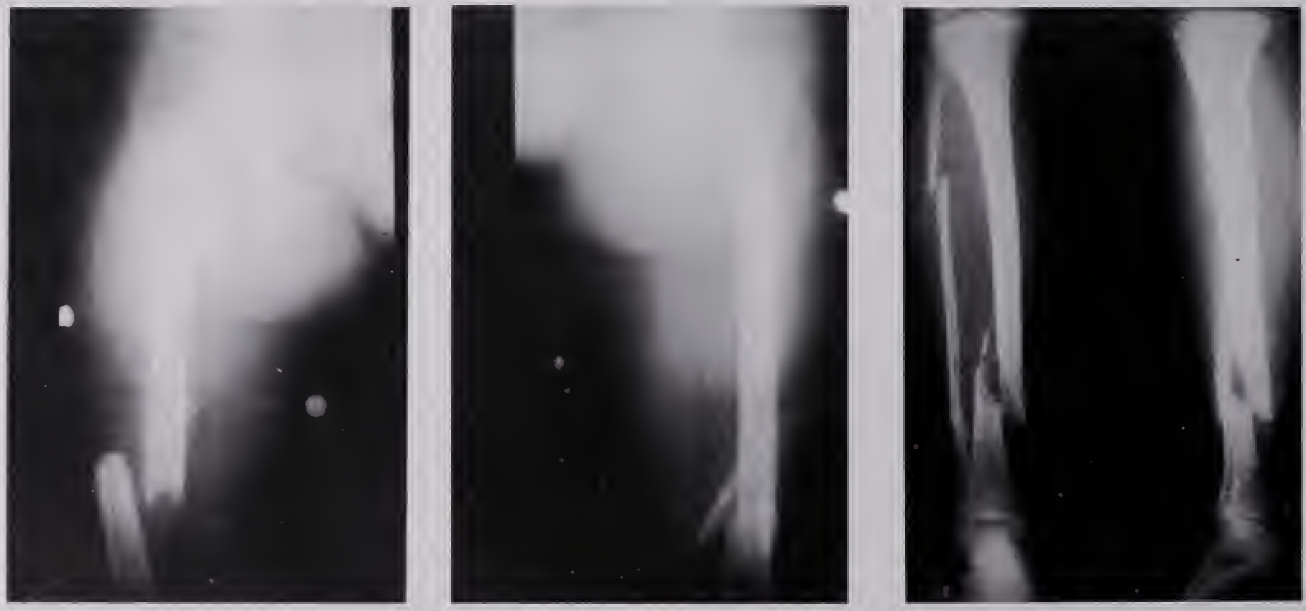

**FIGURE 1A - Right transverse femur fracture.**

**FIGURE 1B - Left femur fracture with comminution.**

**FIGURE 1C - Right Grade III open tib-fib fracture.**

With the appreciation that the presence of a long bone fracture might have a deleterious effect on the morbidity and mortality of polytrauma patients, clinicians began to study the benefits of early fracture fixation. In general, early is defined as fracture fixation within 48 hours of injury. Meek analyzed 70 consecutive trauma patients. Of 21 receiving immediate fracture stabilization, there were no deaths, in contrast to 14 deaths in the 49 nonoperatively managed patients. Goris addressed the role of mechanical ventilation with early fixation of long bone fractures. The incidence of mortality and adult respiratory distress syndrome was decreased in the group receiving both early fracture stabilization and mechanical ventilation.[7]

Two prospectively randomized studies have further substantiated these findings. Border, in comparing the effects of femoral traction on the pulmonary failure septic state (pulmonary failure septic state; def. alveolar-arteriolar $O_2 >$ 100, fever, leukocytosis), concluded that ten days of femoral traction increased the required length of ventilatory support, length of ICU care, number of positive blood cultures, and increased hospital costs. All 56 patients in this study had injury severity scores greater than 22 and initially were statistically identical on the basis of 21 comparisons.[8]

Bone prospectively randomized patients with an ISS of greater than 18 and a femoral shaft fracture to identical treatments, except one group received fracture fixation in the first 24 hours while the other was placed in traction for at least 48 hours. These multiple-injury patients demonstrated a statistically significant increase in the rate of respiratory complications in the late fixation group, 43% (12/28) compared to the early fixation group 3% (1/30). In this study, respiratory complications included ARDS, fat emboli, pulmonary dysfunction, pulmonary embolism, and pneumonia.

Historical comparisons also substantiate the reduction in mortality associated with early internal fixation.[9] Older papers report a 30% mortality rate for polytrauma patients with an ISS of approximately 30.[2,10,11] Few of these received early fixation of long bone fractures, and patients were presumably confined to a supine position. More recent series, with early long bone stabilization report mortality rates of 0-5%, for patients with comparable injuries.[7,8,9,12]

The advantages of early fixation of long bone fractures in the management of polytrauma patients are clear. The Orthopaedic Department at Hennepin County Medical Center pursues the following philosophy in approaching these patients. After the resuscitation phase and conclusion of life-saving surgery, the patient is re-assessed to determine the number and severity of musculoskeletal injuries. In many instances this occurs in the operating room following life-saving surgery, and it is the first time a careful clinical and roentgenographic examination of the patient is possible. A list of treatment priorities is identified, and priority is given to the stabilization of long bone fractures and wound management of open fractures. The decision to proceed with fracture stabilization is dependent upon stable vital signs, pulmonary function, and the correction of coagulopathy.

Our department and others have appreciated a "Golden Period" existing in the first 48 hours following injuries, during which the patient's condition is optimal for orthopedic procedures. After 48 hours, fevers, secondary colonization of the pulmonary tree and open wounds, catheter infections,

**FIGURE 2A, B, C - Immediate postoperative films.**

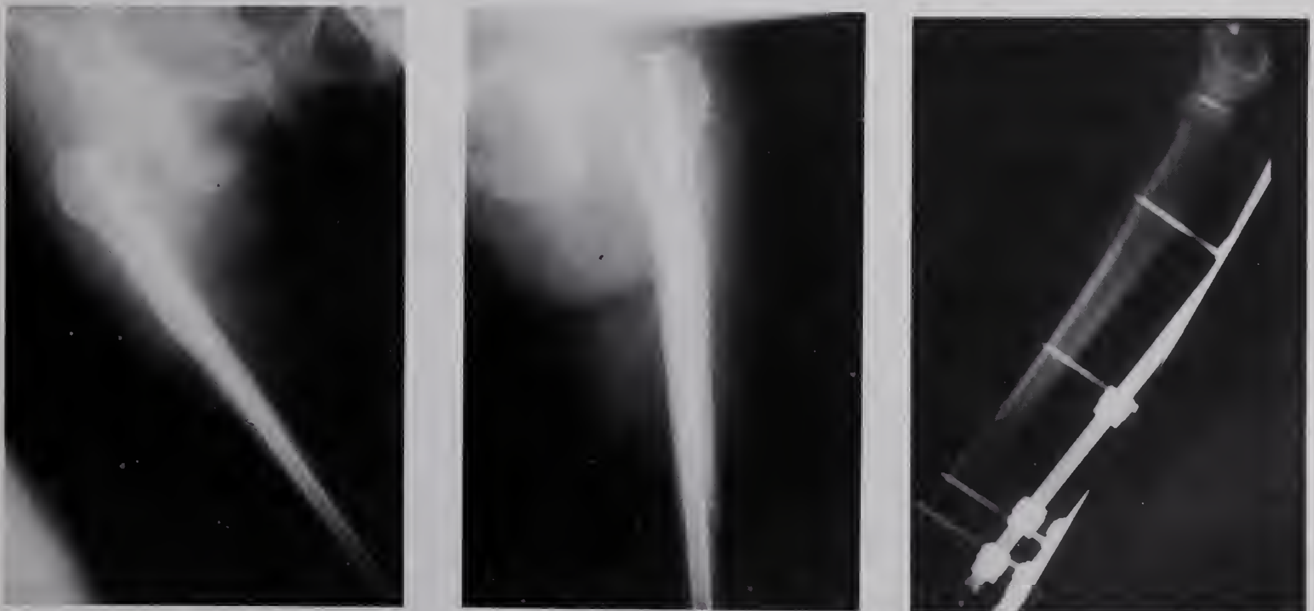

**FIGURE 2A - Right femur fracture, intramedullary nailing.**

**FIGURE 2B - Left femur fracture.**

**FIGURE 2C - Right tib-fib fracture with external fixation.**

and deteriorating nutritional status make delayed operative fracture management less desirable.

Although advances in the care of blunt trauma victims continue to progress, further attention needs to be directed to the prevention of these injuries. We encourage future legislation directed at reducing the incidence of blunt trauma in our society. Stricter definitions and enforcement of alcohol related driving offenses, the use of seat belts, and speed limits should be studied. In addition, the dangers of motorcycles and all-terrain vehicles to our children must be recognized.

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## **Poison** from page 699

ters. Staff members also taught an additional 13,000 preschool children about poison prevention. Nine area hospitals and many clinics distributed poison prevention packets to 9,500 new mothers and 3,500 parents of infants and toddlers during routine check-ups. In addition to workshops and health fairs, professional staff gave over 70 lectures to the public and medical professionals, and published three newsletters about poisons for the public, area hospitals and physicians, and veterinarians.

The Minnesota Regional Poison Center's education program networks with 25 local public health organizations and distributes a lending library of slide/tape programs and materials that reached an estimated 5,300 preschool children. Forty-eight programs were loaned to elementary schools, and 90 programs were used to reach 7,600 adults and presented at 68 health fairs as well. Over 344,000 materials were distributed from St. Paul-Ramsey Medical Center.

### Limitations

As physicians well know, telephone diagnosis and treatment is fraught with hazard. While poison centers have extensive information and experience about the effects of thousands of drugs and chemicals, they are no substitute for a physician's hands-on medical care and clinical judgment in potentially serious cases. These cases are always referred for medical evaluation, and although the poison center can provide treatment advice, it must be used by each physician in the context of each particular patient. Because the centers have no way of evaluating suicide risk, all of these patients are referred for immediate psychiatric evaluation, even if there is no medical danger. Although poisoning by any of these can be managed, the identification of mushrooms, plants, and snakes is also difficult to make by telephone. Often, referrals to nurseries or specialty consultants resolve the problem. The average telephone call at the Hennepin center is answered within one and one-half rings, but if a flurry of phone calls arrive simultaneously, and the caller has to wait four rings, the telephone reverts to a call sequencer to allow the poison specialists to triage the calls and manage the most serious case first.

### Future

As cost containment issues become more important, early poison center intervention can keep the majority of exposures from ever developing into major poisonings. The vast majority of exposures can be handled with telephone advice by poison center staff members without further intervention, thus decreasing unnecessary use of more expensive medical resources. Improvements in advanced computer technology will allow for more access to greater resources and information in the near future. As ever greater awareness of the dangers of hazardous chemicals and the workplace develops, poison centers are incorporating this expertise into their ongoing role of providing information to physicians and the public.

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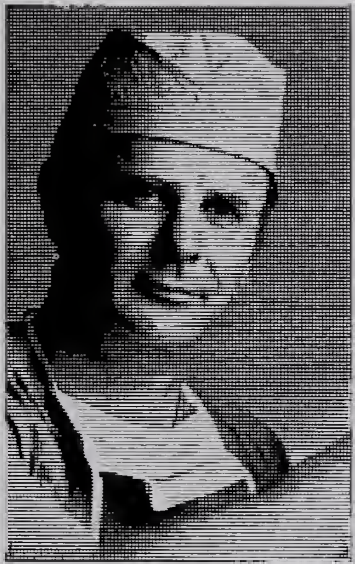

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# Ethics, Law, and Emergency Medicine

*Timothy J. Crimmins, M.D., F.A.C.E.P.*

> **"A nun held my mother's hand and reflected solemnly on the preciousness of life. . . and the privilege of a dignified death. Turning aside, she spoke in a voice of one who'd witnessed the spectacle of death and suffering: 'Don't let the doctors try their heroics with your mother.' "**
>
> ***Jerry Hulse, from "Playing God: a loving son's agonizing life-or-death decision"***[1]

Emergency physicians and paramedics are taught to prioritize, assess airway, breathing, and circulation, and promptly institute cardiopulmonary resuscitation and defibrillation. Immediate treatment of life-threatening problems often begins before a complete medical history can be obtained. Consent is often implied, and proxies are often not readily available. Paramedics operate under Standard Operating Procedures, and emergency departments often treat under protocols that dictate life-saving procedures. The dilemma is evident. More individuals are electing to live with their terminal illnesses in their homes, and are requesting a dignified and peaceful death, but they still may need medical transportation and treatment of acute reversible problems, or require evaluation and treatment of pain or suffering. Their call for help results in an emergency medical response learned from the military and designed for victims of vehicular accidents. Death is treated as if it is the result of cardiac arrest from myocardial ischemia, and not the expected outcome of terminal illness. Dr. Robert Benjamin, in a letter to the Methodist Hospital medical staff, writes: "During the twentieth century physicians began to focus so completely on the cure or treatment of disease that the role of physicians as comforter to the dying was often neglected. Now we recognize, once again, that there are times when our greatest help is to provide comfort, solace, dignity, and counsel to dying patients."[2]

The ethical problems in limiting medical care in the emergency setting are no less thorny than those in the hospital—except that information and time are scarce.

The following excerpt from an ambulance report filed by paramedics illustrates the conflicts.

> "59 y.o. female cancer patient vomiting blood. Terminal lung cancer patient began vomiting increasing amounts of blood. Down time less than 5 minutes prior to first responders arrival. Found patient in cardiac arrest. CPR initiated. Pt's family and first responders/police engaged in verbal and physical confrontation over resuscitation. No home DNR [Do not Resuscitate] order."[3]

The paramedics, according to standing orders, properly initiated CPR and immediately sought physician radio-medical control. The patient's personal physician's associate on call was contacted by the emergency department radio physician, and resuscitation was discontinued.

Is the hemetemesis from tumor erosion into a great vessel, or an unrelated peptic ulcer? Does it matter? Is the family acting in the patient's best interest? Can they legally make medical treatment decisions at the time of any emergency? Which family members must be present, and must the decision be unanimous or just a majority? What constitutes terminal: hours, days, weeks, or months? Shouldn't lacerations be sewn, fractures set, and choking treated in these patients? Can they be transported by ambulance to the hospital for relief of pain or suffering, or should an ambulance never be called for "terminal" patients? What constitutes heroic care? Is an IV extraordinary? Does it matter if it's used for morphine or lidocaine?

The emergency providers are faced with an obvious dilemma. The medical treatments are often perceived as invasive and burdensome, but they are usually initiated under standing orders, with inadequate knowledge of the underlying condition or the exact nature of the acute event, the patient's prior wishes, or the management plan developed by the physician. Some patients are ambivalent about decisions limiting treatment, especially those with AIDS. Sometimes the patient's incompetence is difficult to determine, and the designation of surrogates and their authority is in question. As in all of medicine, there may be uncertainties in the diagnosis or prognosis. There is the risk of alleged malpractice if "everything isn't done," and the possibility of accusations of passive euthanasia is always present.

The law offers some guidance in this area and has consistently recognized the autonomy of the individual. A competent patient without dependents, with informed consent, may refuse life-saving medical care. It is generally agreed that legal guardians for the incompetent may provide consent to medical treatments or their withdrawal. In the absence of a "Living Will" law in the state of Minnesota, there is no legal mechanism for formulating advance directives or designating proxy decision-makers for health care. There are no laws providing immunity to health care providers who carry out the requests of their patients, should disputes later arise. However, the "medical standard of care" is evolving to allow health care providers to limit burdensome and minimally beneficial medical treatments with the consent of their patients or surrogates, as outlined in the recently published Emergency Medicine Study Guide[4] and Hastings Center Guidelines.[5]

Guidelines have been adopted by the West Metro Emergency Medical Services Council and incorporated into the Paramedic Standard Operating Procedures to allow paramedics to honor DNR orders in the home and long term care facilities.[5] The Minnesota Medical Association (MMA) Board of Trustees adopted a similar position regarding the implementation of DNR and DNI (Do Not Intubate) orders during prehospital care.[6] The Minnesota Department of Health EMS Advisory Task Force is considering statewide guidelines regarding DNR orders in the prehospital setting. There appears to be an emerging consensus in the emergency care community on how to interpret and carry out orders to limit medical treatment, largely based on the MMA's original DNR guidelines, written in 1981.

The recommendations suggest that the physician develop a management plan based on an appropriate diagnostic work-up and prognosis, anticipating expected catastrophic events or potential future acute medical interventions. This plan is then tailored to the individual's particular needs, prior requests, and resources, with appropriate family participation. With the consent of the individual or surrogates, the management plan is then "codified" into one or more of the following orders: DNR, DNI, or a Limited Treatment Plan.

### DNR

The indications for the Do Not Resuscitate order have been discussed extensively elsewhere,[7,8] but essentially the indications are: patient refusal to consent to CPR, or "no medical indication;" that is, the cardiac arrest/death is the expected result of an incurable condition, and CPR would be expected to have no therapeutic benefit. DNR (Do Not Resuscitate, No code, No CPR) has been defined as: "In the event of an acute cardiac or respiratory arrest, no cardiopulmonary resuscitation will be initiated." DNR orders are compatible with maximal therapeutic care. Persons may appropriately receive evaluation, assistance, treatment, and ambulance transport via the 911 emergency medical care system.

### DNI

The DNI order was defined by the MMA as follows: "In the event of acute or impending respiratory failure, endotracheal intubation to provide sustained assisted ventilation should not be performed." (DNI does not prohibit the emergency management to prevent or reverse acute obstruction with oral, nasal, or esophageal obturator airways, or treatment of transient respiratory insufficiency with oxygen or short trials of assisted ventilation with positive pressure ventilation equipment or Ambu bags.) There has been considerable confusion in determining the meaning of this order and its implications for emergency care.

In general, EMS providers have been encouraged to aggressively manage the airway in the prehospital setting, and the decision for the need for long-term mechanical ventilation may be made in the emergency department or in the intensive care unit by the attending physician. Attempts to clarify this order have led the Hennepin County Medical Center Ethics Committee to define DNI as follows: "In the event of respiratory insufficiency or arrest, no endotracheal intubation for the purpose of sustained, mechanical ventilation will be initiated and/or continued." According to the guidelines, DNI does not prohibit the use of an endotracheal tube for controlling the airway for surgical procedures, use in suctioning, use in acute reversible upper airway obstruction (i.e., choking), use in temporary hypoventilation (i.e., narcotic overdose), as an adjunct for pain relief, or relief of dyspnea. Excerpts from the DNI guidelines recommend that an adequate period of observation and appropriate diagnostic evaluation are necessary before consideration of a DNI order.[9]

The indications for writing the DNI order require further discussion in the medical literature. Possible indications include the "bed-bound" patient with end stage interstitial or chronic obstructive pulmonary disease, after informed consent has been obtained. Provisions must be made for relief of their suffering due to dyspnea during the terminal phase of their disease. The DNI order may have an indication in the persistently comatose patient on the basis of substituted judgment and refusal of consent by appropriate surrogate decision makers. Again, further discussion on the medical indications for the DNI order is needed, as is discussion regarding what is necessary to ensure that "informed consent" is obtained.

### Limited Treatment Plan

This statement alerts the health care provider to medical treatments the patient has refused, or which may be considered medically futile therapies. Examples include surgery, chemotherapy, dialysis, nasogastric tubes, intravenous lines, or emergency ambulance evaluation and transportation. These specific treatment limitations should be delineated to guide emergency care givers should these individuals require medical transportation, or treatment in an acute care facility for some condition.

At this time, no accepted definition or indications exist in Minnesota for the various phrases implying limited treatment such as supportive care only, hospice care, terminal care, conservative care, or comfort care. Model guidelines have been written;[10,11] however, in the absence of specific definitions, paramedics are instructed to obtain physician radio-medical control to determine the appropriate emergency medical treatments, should these patients require ambulance transportation.

The goal of emergency medical care has traditionally been preservation of life; however, the obligation to relieve suffering and provide comfort and dignity to the dying is increasingly being recognized.

Physicians should work with their patients who request "no heroics" to develop a care plan that anticipates potentially burdensome medical care. This care plan should use well-defined terms and specific instructions to guide health care providers regarding appropriate medical care. Mechanisms should be developed to communicate this information to emergency personnel should patients require transportation by ambulance. Emergency medical providers are increasingly attempting to provide medical care in keeping with the patient's medical, spiritual, and emotional needs.

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*Timothy J. Crimmins is on the Minnesota Medical Association Ethics Committee, is a member of the West Metro EMS Council, and has helped develop DNR guidelines for ambulance providers.*

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## **Cicero** from page 660

*department and how it functions and what your role in it is.*

**CICERO:** We have an emergency department that sees about 66,000 patients a year. Ours is a staff-run model. We have emergency medicine, board-certified staff physicians here all the time. They see every patient that comes in, even though we have residents and students that are a part of our teaching program. When patients come in this emergency department, they will always be seen by a trained staff physician. That model has worked well for us. We feel comfortable that patients coming in are going to get quality care. It's very busy. We see a lot of patients. Hot summer nights can be very exciting.

**REECE:** *How many-full time physicians do you have serving this department?*

**CICERO:** We have 12 and a half.

**REECE:** *What are some major transportation systems in Minnesota?*

**CICERO:** There are three major helicopter systems. They include Ramsey Medical Center, the University and Abbott Northwestern together, North Memorial, and Mayo. These systems move patients from western Wisconsin and from all over Minnesota to the major centers. The decision of where to go is made by the referring physician. He calls whomever he wants to transport them, and they are transported to the hospital that physician and patient choose. Our helicopter does not necessarily always transport patients to us. It is just as likely that our helicopter would go to Children's Hospital or North Memorial.

**REECE:** *So the systems are cooperative?*

**CICERO:** Very much so. We are competing to a certain extent, but we're not fighting with each other. We realize that the best way to achieve optimum patient care is to cooperate. We have radio control here for the East Metro side. Other places, like North, also have radio control.

**REECE:** *How many patients a year would a helicopter bring into Ramsey County?*

**CICERO:** This year, our helicopter—Life Link III—will carry 660 patients, of which 200 will come to Ramsey Medical Center.

**REECE:** *What kind of patients come in by helicopter?*

**CICERO:** For the most part they are seriously injured or seriously ill. We will transport new myocardial infarctions because of the need to get them into a system early to use TPA or emergency angioplasty. We see a lot of neonatal transports—sick, premature babies. Occasionally helicopters will pick people up right on the scene. That doesn't happen often, but North has done that to a certain extent and so have we.

**REECE:** *Emergency medicine strikes me as a rapidly growing, exciting specialty. It appeals to phy-*

*sicians because you perform dramatic, even lifesaving acts, yet you also have regular hours. Is my perception correct? Does your field attract a lot of physicians?*

CICERO: You have regular hours. Unfortunately a good percentage of them are in the middle of the night and in the middle of the weekend. But emergency medicine is one of the highly sought after residencies. It is an exciting specialty. I thoroughly enjoy it. I love to treat patients. Some physicians don't like the fact that you don't provide long-term care. But, it's not always exciting. Many cases are routine—colds, coughs and kids with fevers and ear infections. But then you have those cases that demand all the skill that you can muster.

REECE: *And yet there's a lot of controversy, too, about emergency rooms and emergency medicine. For example, Dr. John West, a California member of the American College of Surgeons Committee on Trauma, has called the Minnesota system a "crapshoot." Do you think he misreads the situation here?*

CICERO: He believes that every state needs a regional system, and that if you don't have that it's a "crapshoot." That's not necessarily true. Without an official regional system, the state of Minnesota provides a quality emergency room system. We are not having people turned away from emergency rooms. We are not treating people at hospitals incapable of handling them.

REECE: *But how did this myth about people being "turned away" evolve?*

CICERO: It may be a misunderstanding. If anyone is "turned away," it is after they've been in the emergency department. When people who are sick and ill come to an emergency department, we are obligated to take care of them. We are the only specialty that is mandated by law to see every patient that comes in. Unfortunately, in some private hospitals, once the emergency physician has decided that a person needs hospitalization, patients may have a difficult time getting into the hospital if the patient doesn't have a good payer source. A problem may also arise if there isn't a physician in the house willing to take them on their service. Then hospital officials may choose to transfer them to hospitals where they can be taken care of regardless of their ability to pay.

**"I don't really think we have a profound problem here in Minnesota, as compared to some other states."**

REECE: *Let's look at the flip side of being "turned away," namely, the dumping syndrome. Is that a problem in Minnesota? Do you get dumped upon?*

CICERO: To a minor extent. We do see patients at places like Ramsey Medical Center and Hennepin that went to other hospitals that didn't want to admit them because they could not pay. So some come here. But caring for them is part of our mission. We have written that as part of the mission of our organization. We will continue to do that. Patients have to be able to go somewhere. In every state and every city, the county and the state have an obligation to take care of their patients. This obligation is usually carried most readily through one of two major institutions. Besides, not every small hospital can afford to have a third of its patients unable to pay their bills. So I think the rhetoric about "dumping" has been overblown, at least in this state.

REECE: *But there are disturbing signs that emergency room care in certain parts of the country, such as southern California and Florida, may be near collapse. In California, for example, 27 to 30 percent of the patients that go to the emergency room can't pay, and in Florida, many emergency rooms are closed because of malpractice. Does Minnesota have similar problems?*

CICERO: Our malpractice rates in the emergency department are not as high as in states such as Florida and southern California, nor do we have such a high proportion of nonpaying patients.

REECE: *Can you give us an idea of the magnitude of the malpractice differences?*

CICERO: You're talking in Minnesota of someone paying $10,000 to $20,000 for insurance compared to $40,000 to $80,000 in other states. Malpractice rates are symptomatic of multiple problems including laws and torts and all that. At this point emergency medicine rates are on the rise, because you see the patient that you haven't established a doctor/patient relationship with. You're getting their acute injuries and their acute problems. These are cases that generate malpractice suits. So it is a concern. There are a lot of laws being developed to protect the emergency physician, like the Good Samaritan law for seeing someone on the street. But basically, I don't really think we have a profound problem here in Minnesota, as compared to some other states.

REECE: *One of the reasons that Minnesota has such a good emergency room system, other than its major teaching trauma centers such as Ramsey and Hennepin, is the number of emergency room physicians in the private sector. For example, there is the Emergency Physician's Professional Association, a private group, in Hennepin County. These doctors see a high volume of cases in their network of private hospitals. What is the relationship between these groups of physicians and physicians at Ramsey and Hennepin?*

CICERO: We associate closely with them. We have educational meetings together, we jointly sponsor programs that are involved with the teaching program at Hennepin—we actually work together in a harmonious way. We don't deal with the political issues of hospitals competing. The physicians are not competing with each other. We all have our own groups of patients who will come to our hospitals, so we're not fighting for this patient versus that patient. These groups have highly skilled people taking care of patients. You can be very comfortable about going into any of the major hospitals around this city. You're going to get quality care. We like to think we do it better than anyone else. One of the dilemmas in emergency medicine is that the patient coming in doesn't know ahead of time who their physician's going to be. So they need to go to places they are comfortable will provide quality physicians, because they're going to get whoever happens to be on at that time. That's a dilemma for patients, not so much for us in providing the care.

REECE: *How might the current system be improved?*

CICERO: The improvements have to be in the area of more cooperation. More cooperation with transport systems so these systems don't become too costly. One or two hospitals can't afford to support a million-dollar hospital helicopter system. Cooperation in developing hospitals that are centers of excellence. Every hospital doesn't have to have a burn center, or spinal center. Those kinds of regionalization might be beneficial. We are making some of those steps in our cooperative efforts right now.

REECE: *You mentioned burns. Isn't that one of the strong points of Ramsey Medical Center?*

CICERO: Yes. It's one of our strong points. Other hospitals have developed burn facilities, such as Hennepin, but we certainly don't need burn centers in 12 different hospitals. Then we would have a hard time supporting them.

REECE: *One of the problems lurking in the background politically is the different views of how emergency rooms ought to be handled by the American College of Emergency Physicians and the American College of Surgeons. How do they differ in their views?*

CICERO: There are turf battles that are going on. The American College of Surgeons has been handling trauma for many years, and many surgeons have left surgery and started practicing emergency medicine. Then our group came along and said we want to practice emergency medicine. That will be our specialty. Each group has its own belief as to who is better focused, and it has not been completely resolved. The American College of Surgeons has run the advanced trauma life support programs, which are excellent, but it's been somewhat of a restricted club. That's a problem. The American College of Emergency Physicians is representing a viewpoint that says physicians who have come through emergency training are not going to take someone in the operating room, because that's not what they're trained for. But we will perform lifesaving procedures, like putting in chest tubes or peforming a tracheotomy. The perspectives are different. In our hospital, we have easy access to surgery. A major emergency department has to have that access. In our facility, surgeons and emergency room physicians are cooperative.

> **"The improvements have to be in the area of more cooperation. One or two hospitals can't afford to support a million-dollar hospital helicopter system."**

REECE: *What about the training of the surgeons? One of the critical places for training a surgeon has always been in the emergency room. Do surgeons feel that they're seeing fewer patients in the emergency room? Is that one part of the turf battle?*

CICERO: To a certain extent that's true. Most surgical programs still have their physicians rotate through emergency rooms, but restrictions for board eligibility in emergency medicine would not allow surgeons to become board eligible or allow them to get boards in emergency medicine. Likewise, I'm not going to qualify for boards in surgery.

REECE: *How many physicians practicing emergency room medicine are there in the state of Minnesota?*

CICERO: There are 12,000 members of the American College of Emergency Physicians. We have 140 in the Minnesota chapter, but probably about 250 people are out there in Minnesota with a major commitment to emergency medicine.

REECE: *Are most of these in the metropolitan area?*

CICERO: No, not necessarily. Outlying areas, such as St. Cloud, Alexandria, Waconia, all have people practicing emergency medicine.

REECE: *Are they specializing in emergency medicine?*

CICERO: Many of them are. Whether they have specialty training or not is another story. But they are spending a major amount of their medical experience in emergency settings.

REECE: *What do you see the future of emergency medicine to be?*

CICERO: The future is quite bright if we can get over this hurdle of what should and what should not go to emergency rooms. No matter where you are, somebody has to take care of the sick kid at two o'clock in the morning. That's our role. We accept that. If we can get over some of those hurdles, we will be able to continue to provide services.

REECE: *Who should be seen in emergency rooms?*

CICERO: We can't judge that. The patients decide if they have an emergency. Since we cannot turn them away, it's very difficult to know how to respond when an HMO says you should not have seen that patient you took care of last night. Even if they are not an "emergency," you have to see them, examine them, register them—everything up to the point of treating. Then you may have to say to the person: "I'm sorry. What you have is really not an emergency. Maybe you better see your doctor the next day."

But you usually don't do that. You treat them. If the patients decide they need to be seen, they have to be seen. That's our philosophy. People who are running the payer sources, like HMOs, don't always agree with our philosophy. They believe that a decision should be made after a conversation with one of their own people.

REECE: *That sounds like an unresolvable conflict to me. What do you do if an HMO patient comes to Ramsey Medical Center? Do you call their HMO official in the middle of the night?*

CICERO: Not before we see them. We give the patient the option of calling. We will tell the patient that if they want to call their physician they can, but we will not make that call for them. We don't want to turn someone away, have them walk out the door, suffer a heart attack, and die. If a patient comes in and wants to be seen, regardless of their payer source, we will see them. Who is going to pay for it later is a secondary decision.

It's the HMO's responsibility to teach its patients where they can go. But if HMO patients choose to come to our emergency room because of the high reputation of that emergency room, they will be seen. Who pays the bill is a difficult decision. We will talk to their HMO before they're admitted. We will admit them to another hospital if their HMO does not allow them to be admitted here. But as far as seeing them and evaluating them in the emergency room, we do not turn patients away.

REECE: *But what happens when you send the HMO a bill?*

CICERO: They pay a percentage of it most of the time. It varies with the HMOs. We collect some of that, some we don't. We don't have any choice.

REECE: *Is that a major financial problem for a center such as yours?*

CICERO: Our physician group here collects 60 cents on a dollar. That's a major problem.

REECE: *Sixty percent is your overall figure? What is your HMO collection rate?*

CICERO: For some, it's lower than 60 percent.

REECE: *As a rotating intern in 1961, I did a long stint in the emergency room. How have things changed since then? Would I recognize your emergency room?*

CICERO: Things have changed, and they haven't. There are new technologies. We're doing echocardiograms in the emergency room, we are putting in central venous lines, we're monitoring central pressures, and many things like that. On the other side, it hasn't changed. You still stick chest tubes the same way they did when you and I learned them, we still make the same diagnosis, the clinical diagnosis is made at the bedside by talking to the patient and looking at an electrocardiogram. So the practice in a lot of ways is still quite similar, with improved technology to help you along.

REECE: *I would imagine one of the big differences of a "Level I" trauma center or major teaching center would be you have immediate access to consultation such as neurologists or neurosurgeons or general surgeons. You can act quickly on a patient that needs emergency surgery.*

CICERO: That's true in Level I trauma centers. Certainly in ours where we have an operating room immediately available. We can actually be opening someone's chest or abdomen within five minutes of the time they enter the door. That's an advantage over a place that might not have a readily accessible operating room. And it does help to have more specialties in consultation, although the emergency-medicine-trained physician is truly skilled in making diagnoses and beginning treatment. We have developed a broad-based ability to handle most emergencies, and you can be very comfortable that emergency physicians can read the patients' electrocardiograms correctly and treat emergencies well.

**"Who pays the bill is a difficult decision. We will talk to their HMO before they're admitted. We will admit them to another hospital if their HMO does not allow them to be admitted here. But as far as seeing them and evaluating them in the emergency room, we do not turn patients away."**

REECE: *Do you find emergency medicine an exciting field and a specialty that is full of satisfaction?*

CICERO: I love it. I love to go to work every day and see the patients. I thoroughly enjoy it. ■

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- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
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- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old Ceclor penetrates mother's milk Exercise caution in prescribing for these patients

**Adverse Reactions:** (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include
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- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, and serum-sickness-like reactions that have included erythema multiforme [rarely, Stevens-Johnson syndrome] and toxic epidermal necrolysis or the above skin manifestations accompanied by arthritis/arthralgia, and frequently, fever). 1 5%, usually subside within a few days after cessation of therapy Serum-sickness-like reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor No serious sequelae have been reported Antihistamines and corticosteroids appear to enhance resolution of the syndrome
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely
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- Other eosinophilia, 2%, genital pruritus or vaginitis, less than 1%, and, rarely, thrombocytopenia

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# NEWS CLIPS

## THE PATIENT'S PSYCHE

Physicians must recognize the importance of psychological factors as a complement to medical care in the management and treatment of disease, a commentary in the September 16 *Journal of the American Medical Association* argued.

"It becomes necessary . . . to create a balanced perspective, one that recognizes that attitudes such as a strong will to live, high purpose, a capacity for festivity, and a reasonable degree of confidence are not an alternative to competent medical attention but a way of enhancing the environment of treatment," according to Norman Cousins, an adjunct professor at UCLA.

Cousins, former editor of the *Saturday Review*, is the best-selling author of *The Healing Heart*, in which he describes how the use of humor and a positive attitude helped speed his recovery from a 1980 heart attack.

In the *JAMA* commentary, Cousins cited a series of studies linking emotional factors with a number of physiological reactions including changes in hormone levels and immune response. Past medical minds have long argued the merits of a positive medical attitude, and "such views have long since been accepted as conventional wisdom, but are now being confirmed by laboratory findings," according to the author.

## HELP FOR CIGARETTE CRAVERS?

Research suggests that the antihypertensive drug clonidine may help smokers kick the habit by reducing their craving for cigarettes. A report in September's *Archives of Internal Medicine* now says this effect also is seen when the drug is administered in a transdermal form—a patch that delivers clonidine into the bloodstream through the skin. Steven A. Ornish, M.D. now in private practice, and colleagues at the University of California, San Diego, School of Medicine looked at transdermal clonidine's effect on withdrawal symptoms in a double-blind, placebo-controlled study involving 40 smokers. Subjects were told to maintain their usual cigarette intake for three days, then stop smoking for the next three. Compared with those receiving transdermal clonidine, the placebo group experienced more withdrawal symptoms such as craving, irritability, anxiety, restlessness and hunger during the three-day cessation period, according to the study.

## SIGNS OF CHILD ABUSE

A study in September's *Archives of Surgery* reported that surgeons caring for injured children can help spot child abuse by recognizing the characteristic features distinguishing accidental from intentional injuries. This is especially true in the case of abdominal injuries, according to Daniel E. Ledbetter, M.D. of Children's Hospital and Medical Center, Seattle, and colleagues, who reviewed the cases of 156 children who suffered abdominal injuries—89 percent in accidents, 11 percent through abuse. The abused children were younger than the others and had injuries unexplained by their medical histories. In addition, while 61 percent of the accident victims suffered injuries to a single, solid abdominal organ, 65 percent of the abuse children had intestinal tract injuries. "Surgeons who care for injured children need to have a high degree of suspicion for abuse, especially in younger children," the authors concluded.

## HIGH BLOOD PRESSURE REPORT AVAILABLE

The National Heart, Lung, and Blood Institute (NHLBI) has made available *The 1988 Report of the Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure* (JNC IV). The report was recently released by the coordinating committee of the National High Blood Pressure Education Program, a program sponsored by the NHLBI.

JNC IV reviews, updates, and expands the 1984 recommendations for controlling hypertension. The new report translates the results of the latest clinical trials to medical practice, addresses the needs of special populations, examines factors that influence the cost of care, and provides additional guidelines for managing high blood pressure in the presence of cardiovascular diseases and other coexisting medical conditions.

A copy of JNC IV may be obtained free of charge by contacting:

The National High Blood Pressure Education Program
Information Center
4733 Bethesda Avenue, Suite 530
Bethesda, Maryland 20814
(301) 951-3260

## MED SCHOOL NUMBERS ARE DOWN. . .

Applications to U.S. medical schools declined for the 1987-88 academic year, and first-time enrollments fell for the sixth year in a row, according to a report in the August 26 *Journal of the American Medical Association*.

The number of women enrolling in and graduating from medical schools continues to rise, although the number applying has declined, according to *JAMA's* 88th Annual Report on Medical Education in the United States. The number of white males entering medical school has declined in the past five years, while the number of black, Asian, and Pacific Islander women has increased substantially, according to the report.

There were 3,200 fewer applicants to U.S. medical schools for the 1987-88 academic year than the year before, reported Anne E. Crowley, Ph.D., of the AMA's Office of Medical Education Information Analysis.

First-time enrollment totaled 16,047, "a continuation of the decrease observed over the past five years," according to the report. Total enrollment, 65,742, also was down for a sixth straight year. "Despite the decline in number of applicants, the percentage of 'A' students entering has increased, and the average Medical College Admission Test score of entering students remains high," the authors said.

Women accounted for 37 percent of 1987-88 medical school applicants, 36.5 percent of students entering classes, 34.3 percent of total enrollment, 32.7 percent of M.D. graduates, and 28 percent of residents in graduate medical programs.

## . . . AND DEBTS ARE UP

Another study in the same August 26 *JAMA* concluded that eight out of 10 medical students are in debt when they graduate, and their average debt load is larger than ever before.

The study, by Paul Jolly, Ph.D., of the Association of American Medical Colleges, Washington, D.C., and colleagues, summarized U.S. medical school finances as part of *JAMA's* annual report on medical education in the United States. It included data for the 1986-87 school year, the latest information available.

The study reported that 82 percent of all 1987 medical school graduates were in debt, owing an average of $35,621—more than $2,100, or 6 percent, higher than the average debt load of 1986 graduates. Seventeen percent of all 1986 and 1987 indebted graduates owed more than $50,000, the authors said.

## HEALTHEAST ONCOLOGY DIRECTOR

Kenneth Caldwell, M.D., is the new HealthEast oncology medical director. Caldwell said his appointment is part of HealthEast's plan to coordinate service to provide better patient care.

Caldwell is board certified in internal medicine, hematology and oncology. A St. Paul native, he attended the University of Minnesota medical school where he completed a hematology fellowship. He followed this with an oncology fellowship at the New England Medical Center in Boston.

## THE FUTURE OF FAMILY PRACTICE

A shortage of family practice physicians will occur if increasing support from the medical profession is not forthcoming, concluded a report in the September 2 *Journal of the American Medical Association*.

The report by the AMA's Council on Long Range Planning and Development found that despite greater demand for family practice physicians, the specialty suffers from a lack of recognition both publicly and professionally. The study, covering the years 1965 to 1986, shows the number of U.S. family physicians gradually increased through 1986 but did not keep pace with the number of physicians overall.

"There may be a shortage of family physicians, despite a predicted oversupply of physicians in general, particularly in managed-care systems and in rural areas that are underserved," the report concluded.

## MILD STRESS ON CORONARY PATIENTS

Mildly stressful mental activities can constrict the coronary arteries of heart disease patients, cutting off vital blood and oxygen to the heart, without causing the chest pain that signals the need for treatment, according to a report in the April 21 *New England Journal of Medicine*. This finding may help to explain why some people suffer heart attacks immediately following emotionally stressful events.

Researchers Alan Rozanski, M.D., and colleagues assigned emotionally and mentally taxing tasks to 39 individuals with coronary artery disease and 12 without. Subjects were monitored to observe movement of their arterial walls and blood flow through their coronary arteries. The tasks, comparable to nonstrenuous everyday activities, included arithmetic exercises, identifying the color of letters that actually spelled out a different color, delivering a speech on some deeply felt personal fault to two observers and reading aloud material that had no emotional impact. Subjects rated the tasks according to the extent they caused anger, anxiety, mental arousal and a sense of challenge.

Among the subjects with heart disease, 23 of the 39 (59 percent) had arterial wall motion abnormalities during mental stress. In 19 of the 23, there was a narrowing of the arteries unaccompanied by warning symptoms (a condition called "silent myocardial ischemia"). Blood pressure also increased among this group during mental stress. Abnormal coronary artery reactions to stress were very rare among the health control subjects. Presenting a personally arousing speech had the most damaging impact on coronary blood flow, comparable to that induced by vigorous exercises. Interestingly, the patients did not perceive this task as having any stronger emotional impact than the math and color-word exercises, again highlighting that heart patients may not be able to discern those activities that may lead to serious coronary problems.

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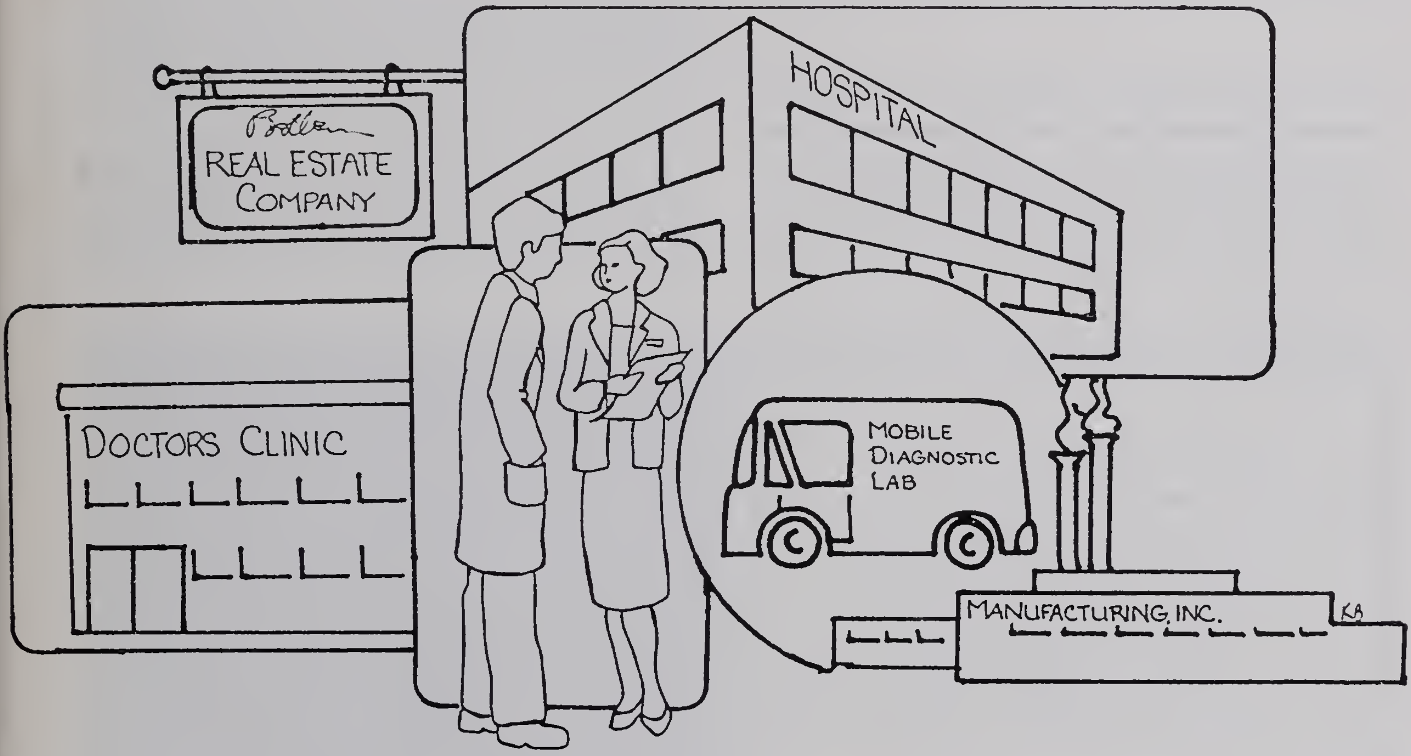

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# CME IN MINNESOTA

## Provided through the MMA Medical Education Subcommittee on CME Resources

For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; (612) 378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

## NOVEMBER 1988

3-4 **Pediatric Emergency Medicine - 1988** Minneapolis Children's Medical Center; Education Building, Abbott-Northwestern Hospital, Minneapolis, Minnesota. CONTACT: Debbie Bowman, Medical Education, 2525 Chicago Avenue South, Minneapolis, Minnesota 55404; (612) 863-6206.

4-5 **Transrectal Ultrasound of Prostate and Seminal Vesicle** Department of Urologic Surgery, University of Minnesota; Mayo Memorial Auditorium, University of Minnesota, Health Sciences Center, Minneapolis, Minnesota. CONTACT: Continuing Medical Education, University of Minnesota, Box 202, 420 Delaware Street SE, Minneapolis, Minnesota 55455; (612) 626-5525.

4-5 **Pediatric Emergency Course** Southeast Minnesota Emergency Medical Services; Olmstead Community Hospital, Rochester, Minnesota. CONTACT: Linda Horth, SE/EMS, 201 West Center Street, Rochester, Minnesota 55902; (507) 285-6080.

4-5 **American College of Physicians Regional Meeting, Minnesota Chapter** American College of Physicians; Hyatt Regency Hotel, 13th and Nicollet, Minneapolis, Minnesota. CONTACT: Gerald R. Onstad, Department of Medicine, Hennepin County Medical Center, 701 Park Avenue, Minneapolis, Minnesota 55415; (612) 347-2703.

5 **Semi-Annual Fall Scientific Meeting** Minnesota Society of Anesthesiologists; L'Hotel Sofitel, Bloomington, Minnesota. CONTACT: Ronald A. MacKenzie, D.O., Department of Anesthesiology, Mayo Clinic, Rochester, Minnesota 55905; (507) 782-2511.

7-11 **Team Management of Diabetes Mellitus** International Diabetes Center; International Diabetes Center, Park Nicollet Medical Foundation, Minneapolis, Minnesota. CONTACT: Lucy Mullen, R.N., B.S., Assistant Director of Education, Park Nicollet Medical Foundation, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3393.

11-12 **Primary Care Update II** Methodist Hospital Family Practice Department; L'Hotel Sofitel, Bloomington, Minnesota. CONTACT: Jan Stalper, Methodist Hospital, 6500 Excelsior Boulevard, St. Louis Park, Minnesota 55416; (612) 932-5135.

11-12 **Primary Care Update II** Methodist Hospital Family Practice Department, Hotel Sofitel, Bloomington, Minnesota. CONTACT: Jan Staples, Methodist Hospital, 6500 Excelsior Boulevard, St. Louis Park, Minnesota 55416; (612) 932-5135.

12 **Fall Anatomic Pathology Seminar** Minnesota Society of Clinical Pathologists; Radisson University Hotel, Minneapolis, Minnesota. CONTACT: Carmela Brown, MSCP, 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; (612) 378-1875.

13 **Endocrinology for the Primary Care Physician** Mayo Clinic/Mayo Foundation; Mayo Clinic, Rochester, Minnesota. CONTACT: Rita Kunz, Mayo Clinic, 200 First Street SW, Rochester, Minnesota 55905; (612) 284-2509.

14-16 **Partners in Managing Type II Diabetes** International Diabetes Center; International Diabetes Center, Park Nicollet Medical Foundation, Minneapolis, Minnesota. CONTACT: Lucy Mullen, R.N., B.S., Assistant Director of Education, Park Nicollet Medical Foundation, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3393.

14-16 **Clinical Reviews** Mayo Clinic/Mayo Foundation; Mayo Clinic, Rochester, Minnesota. CONTACT: Rita Kunz, Mayo Clinic, 200 First Street SW, Rochester, Minnesota 55905; (612) 284-2509.

16 **Gastroenterology** Mesabi Regional Medical Center; Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota; (218) 262-4881, Ext. 259.

17-19 **Primary Care Medicine—Sixth Update** St. Paul-Ramsey Medical Center; Holiday Inn East, I 94 and McKnight Road, St. Paul, Minnesota. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

18-19 **General and Peripheral Vascular Laser Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota. CONTACT: Tim Schuh, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

Nov. 28-Dec. 2 **Team Management of Diabetes Mellitus** International Diabetes Center; International Diabetes Center, Park Nicollet Medical Foundation, Minneapolis, Minnesota. CONTACT: Lucy Mullen, R.N., B.S., Assistant Director of Education, Park Nicollet Medical Foundation, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3393.

## DECEMBER 1988

1-3 **Annual Cardiopulmonary Medicine Course** St. Paul-Ramsey Medical Center; Holiday Inn East, I-94 and McKnight Road, St. Paul, Minnesota. CONTACT: Bonnie Young, St. Paul-Ramsey Medical Center, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

5-7 **Partners in Managing Type II Diabetes** International Diabetes Center; International Diabetes Center, Park Nicollet Medical Foundation, Minneapolis, Minnesota. CONTACT: Lucy Mullen, R.N., B.S., Assistant Director of Education, Park Nicollet Medical Foundation, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3393.

12-16 **Team Management of Diabetes Mellitus** International Diabetes Center; International Diabetes Center, Park Nicollet Medical Foundation, Minneapolis, Minnesota. CONTACT: Lucy Mullen, R.N., B.S., Assistant Director of Education, Park Nicollet Medical Foundation, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3393.

20 **Physical Medicine & Rehabilitation** Mesabi Regional Medical Center; Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746; (218) 262-4881, ext. 259.

## JANUARY 1989

20-21 **Cardiology Update** Abbott Northwestern Hospital, Radisson Arrowwood Inn and Resort, Alexandria, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

20-21 **Vascular Laser Surgery: "A Hands-on" Training Program** Abbott Northwestern Hospital, Abbott Northwestern Hospital, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

## FEBRUARY 1989

22-25 **Thoracic Organ Transplantation** Abbott Northwestern Hospital, Westin La Paloma, Tucson, Arizona. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

24-25 **General Laser Surgery: "A Hands-on" Training Program** Abbott Northwestern Hospital, Abbott Northwestern Hospital, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

## MARCH 1989

11-24 **South American Adventure** North Central Medical Conference. CONTACT: North Central Medical Conference, 1845 Hampshire Avenue, Suite 200, St. Paul, Minnesota 55116.

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**Twenty-nine Physician Multispecialty Clinic** located in desirable east-central Wisconsin location is seeking board-certified or board-qualified orthopedic surgeon to round out its services. Lab, X-ray, excellent hospital. Liberal guarantee and benefits. If interested, contact: D.F. Sweet, M.D., Fond du Lac Clinic, S.C., 80 Sheboygan Street, Fond du Lac, Wisconsin 54935. (R)

**Family Physician Sought** to join a group of five board-certified family physicians practicing in a city of 3,500 population in the beautiful Minnesota River Valley. New hospital with new attached clinic and satellite locations with the very latest in equipment. Very busy, growing practice. Contact: D. Carter, M.D., (612) 564-2511 (office), (612) 564-4409 (home), 295 Tenth Avenue, Granite Falls, Minnesota 56241. (R)

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**Family Physician/Emergency Room:** Full-time salary working weekends, primarily emergency room. Flexibility available. Falls Medical Center, PA, 105 Shorewood Drive, International Falls, Minnesota 56649. Please contact: A. Johnson, M.D., or A. Marc Gorden, M.D., at (218) 283-9431 for more information. (R)

**Family Practitioner, General Internist, and General Surgeon** to join 8-physician clinic in Cloquet, Minnesota, a community of 14,000 (30,000 service area), located 20 minutes from Duluth-Superior. The clinic facility is located one block from modern, well-equipped hospital. Cloquet enjoys a stable economy (forest products). Additionally, our community is noted for its excellent school system. First-year salary guarantee, paid malpractice, health and disability insurance, vacation, and study time. Contact: John Turonie, Administrator, Raiter Clinic, Ltd., 417 Skyline Boulevard, Cloquet, Minnesota 55720; (218) 879-1271. (R)

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**Family Physician** wanted to join four physicians, one nurse practitioner, FP group practicing in two offices in Pine River and Pequot Lakes. Competitive salary. No OB. No HMOs. Rural area with outdoor recreational opportunities. Rotate hospital visits, emergency call; adequate free time. Call or write: C.R. Pelzl, M.D., Pine and Lakes Clinics, PO Box 88, Pine River, Minnesota 56474; (218) 587-4416. (R)

**Family Physician** needed to join group of five family physicians in St. Peter, Minnesota, population 9,000, located one hour south of Minneapolis. Contact: Doug Olmanson, M.D., or D.A. Nygard, Administrator, St. Peter Clinic, Ltd., 622 Sunrise Drive, St. Peter, Minnesota 56082; (507) 931-2110. (R)

**Family Physician** to join four others in a well-established, progressive practice serving a market of over 20,000 people. Wabasha, one of Minnesota's most historic, friendly, and beautifully scenic cities, is located on the Mississippi River and offers year-round recreational and sporting activities. Interested physicians please contact: Tom Crowley at (612) 565-4531 (collect). (R)

**Pediatrician:** Ideal opportunity available immediately. Excellent location. Benefits. Apply to: Randall Warren, M.D., or Richard Moore, Administrator, Mork Clinic, P.A., 1833 2nd Avenue South, Anoka, Minnesota 55303; (612) 421-3680. (R)

**GP/FP/EM Available** as locum tenens, weekends. Board-certified. FP. Lic. Minn. Write: Box 35132, Minneapolis, Minnesota 55436. (R)

**Wausau Medical Center** is seeking BE/BC individuals in the following specialties: cardiology, dermatology, family practice, infectious disease, obstetrics/gynecology, pediatrics, and rheumatology. Modern clinic facility located across the street from modern, 300-bed hospital. Full partnership in three years. Easy access to lakes, woods, and mountains. Write (including CV) to: D.K. Aughenbaugh, M.D., Medical Director, Wausau Medical Center, 2727 Plaza Drive, Wausau, Wisconsin 54401. (R)

**St. Cloud—** Minnesota's fastest growing city—family practice physician, 2 pediatricians, 2 ob/gyns, BE/BC to join supportive primary care staff in a growing, successful, and innovative prepaid practice. New clinic facility. Full range of fringe benefits (competitive salary, liberal vacation, two weeks' education leave, retirement fund, etc.). Contact: Gary Strandemo, M.D., Central Minnesota Group Health Plan, 1245 15th Street North, St.Cloud, Minnesota 56303; (612) 253-5220. EOE. (R)

**Family Physician:** Dynamic 13-physician, 3-office, single-specialty practice in northwest Minneapolis suburbs seeking additional associate, BE/BC; OB available. Competitive salary, full benefits, reasonable call and hospital rounds schedule. Contact: Dr. Ken Kephart, Northwest Family Physicians; (612) 476-6776. (R)

**Ten-person Multispecialty Clinic** seeking pediatrician and general surgeon. Financial package competitive. Outdoor hunting, fishing wonderland! Excellent lifestyle, practice, and opportunity. Interested individuals should contact: Nephtali Matta, Administrator, Medical Associates Clinic, 772 East Dakota, Pierre, South Dakota 57501; (605) 224-5901. *3-11/88

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**Family Practitioners:** Immediate opportunity for two board-certified/eligible family practice physicians to practice in a branch office setting in association with one established family practice physician. Generous first-year salary and fringe benefits. Located in the beautiful lakes country of northern Minnesota with abundant recreational opportunities. Call collect or write: Dr. Joseph Corser, (218) 694-2384, Bagley Medical Center, PO Box 186, Bagley, Minnesota 56621; or C.C. Lowery, Administrator, (218) 751-1280, Bemidji Clinic, Ltd., 1233 34th Street NW, Bemidji, Minnesota 56601. 6-1/89

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**Mankato Clinic, Ltd.** is seeking BE/BC physicians in the following specialties: allergy, dermatology, invasive cardiology, oncology, urology, ophthalmology, and general internal medicine. The Mankato Clinic is a 38-doctor multispecialty group practice in south-central Minnesota with a trade area population of 150,000. Guaranteed salary first year, incentive thereafter with full range of benefits and liberal time off. For more information, call Roger Greenwald, Administrator, or Dr. B.C. McGregor, (507) 625-1811 or write 501 Holly Lane, Mankato, Minnesota 56001. (R)

**Ten-person Multispecialty Clinic** seeking pediatrician and general surgeon. Financial package competitive. Outdoor hunting, fishing wonderland! Excellent lifestyle, practice, and opportunity. Interested individuals should contact: Nephtali Matta, Administrator, Medical Associates Clinic, 772 East Dakota, Pierre, South Dakota 57501; (605) 224-5901. *3-11/88

**Family Physician** needed to join group of five family physicians in St. Peter, Minnesota, population 9,000, located one hour south of Minneapolis. Contact: Doug Olmanson, M.D., or D.A. Nygard, Administrator, St. Peter Clinic, Ltd., 622 Sunrise Drive, St. Peter, Minnesota 56082; (507) 931-2110. (R)

**Internal Medicine:** General internist to join a 16-physician multispecialty clinic. Join three general internists serving a population base of 45,000. Offering competitive salary, bonus, low buy-in after one year. State-of-the-art ancillaries. Contact: Richard Graber, Administrator, Austin Medical Clinic, P.A., 101 14th Street NW, Austin, Minnesota 55912; (507) 433-7351. 3-11/88

**Pediatrician** to join existing two-person practice at the 23-physician multispecialty Winona Clinic, Ltd., in Winona, Minnesota. Located in the beautiful Mississippi River Valley of southeast Minnesota. The community with a 40,000 population trade area is the host of three colleges and a diverse industrial base. Send CV to: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, Minnesota 55987. 3-11/88

**Orthopedic Surgeon:** Board-certified/board-eligible to join a 23-physician multispecialty group in Winona, Minnesota. Total patient population draw area of 40,000. Interested physicians please contact: J.B. Knuesel, Administrator, Winona Clinic, Ltd., 420 East Sarnia, Winona, Minnesota 55987. 3-11/88

**Internal Medicine:** Little Falls, Minnesota, near St. Cloud; 11-physician group; 2 offices; 250-bed hospital/nursing home; attractive salary. Reply to: Minnesota Medicine (829), 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414. *3-11/88

**Bemidji, Minnesota:** Excellent opportunities for well-trained physicians. We are seeking board-certified/board-eligible physicians in orthopedic surgery, family practice, ophthalmology, pediatrics, and otolaryngology to join a young 24-physician multispecialty group practice located in northern Minnesota. Competitive salary guarantee plus incentive first year and excellent benefits. An excellent opportunity for a physician to enjoy practice in the center of hunting, fishing, and clear air. Please respond with CV to: C.C. Lowery, Administrator, Bemidji Clinic-MeritCare, 1233 34th Street NW, Bemidji, Minnesota 56601; (218) 751-1280. (R)

**Internal Medicine:** Group of three internists seeking fourth partner. Contact: J. McCrery, M.D., 1527 Broadway, Alexandria, Minnesota 56308; (612) 762-2192. 6-2/89

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**Family Practice:** Opportunities available in North Dakota and northwestern Minnesota. Outstanding opportunities with a large multispecialty group seeking physicians for several divisional sites. Each available position offers a full range of family practice. Several with on-site subspecialty support. Competitive starting salaries and excellent benefit package. For more information, send CV to: John L. Weir, Associate Administrator, Dakota Clinic, Ltd., Box 6001, 1702 South University Drive, Fargo, North Dakota 58108; or call (701) 280-3381. *3-12/88

**Minneapolis Suburban Pediatric Group** has opportunity for board-certified or eligible pediatrician. Busy, diverse practice with good compensation and fringe benefit package. Contact: Gene Inett, Administrator, Metropolitan Pediatric Specialists, P.A., 416 Southdale Medical Building, Edina, Minnesota 55435; (612) 920-9191. 3-12/88

**Physicians-All Specialties:** Excellent opportunities nationwide. We specialize ONLY in physician placement! Call Earl Czech (612) 754-2556. North Central Staff Services, Inc., 11000 Central Avenue NE, #207, Minneapolis, Minnesota 55434. 6-3/89

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**Emergency Physicians:** Full and part-time positions. Level II Emergency Room with 13,000 annual volume. Previous experience or commensurate training preferred. ACLS, ATLS, required. Independent contractor status. Malpractice paid. Contact: Emergency Services and Management, C.A. Lindquist, M.D., Rt. #1, Fort Dodge, Iowa 50501; (515) 955-6136. 2-11/88

**Cashmere, Washington:** One or two FPs for 2-MD office. Vacancy opening July, 1989. Cashmere is on the eastern edge of the Cascades, 10 miles west of Wenatchee, our 167-bed hospital location. It's a scenic spot in a fruit-growing valley. Schools are highly rated, and recreation is tops. Call duty will be shared with two MDs in a separate office. Prospects good for combining the two practices. Please contact: Edgar A. Meyer, M.D., 303 Cottage Avenue, Cashmere, Washington 98815; (509) 782-1541 or 782-2571. 2-11/88

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Contact: John L. Weir, Associate Administrator, Dakota Clinic, Ltd., Box 6001, 1702 South University Drive, Fargo, North Dakota 58108; or call (701) 280-3381. *3-12/88

**Outstanding Opportunity for a BE/BC Family Physician** to join a progressive medical community with eight physicians oriented to family practice. Details will be given by contacting: Dr. Tim Schmitt, Wadena Medical Center; (218) 631-1360; or Jim Lawson, Administrator, Tri-County Hospital, Wadena, Minnesota 56482; (218) 631-3510. (R)

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**Female Internist or Gynecologist Wanted:** Must be board certified. To join female gynecologist, male cardiologist, and male internist. Competitive salary, future partnership a definite possibility. Send resume to Summit Medical Group, P.C., 2800 Spring Arbor Road, Jackson, Michigan 49203; (517) 783-2691. *4-1/89

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**Pain Fellowship:** Position for PGY4 or PGY5 to participate in a one- or two-year program of clinical pain management and clinical or basic research, sponsored by the Department of Neurology, Hennepin County Medical Center, Minneapolis, Minnesota, beginning July 1, 1989. The program maintains an active outpatient practice and sees hospitalized patients on a referral basis from all departments. Opportunities to learn pharmacological management, acupuncture, peripheral nerve blockade, biofeedback technique, and other areas related to pain are available. Hennepin County Medical Center is an equal opportunity educator and employer and specifically invites and encourages applications from women and minorities. Applications and CV should be sent to: Miles J. Belgrade, M.D., Director, Hennepin Pain Center, Department of Neurology, Hennepin County Medical Center, 701 Park Avenue South, Minneapolis, Minnesota 55415. 3-1/89

**Psychiatrist/Chemical Dependency:** Psychiatrist interested in chemical dependency needed to join 220-physician multispecialty group with adjacent 447-bed hospital. Position includes inpatient services for chemical dependency unit with full range of outpatient chemical dependency services available; Evaluation and Detoxification Unit; outpatient chemical dependency clientele and follow-up; general psychiatric practice also available.

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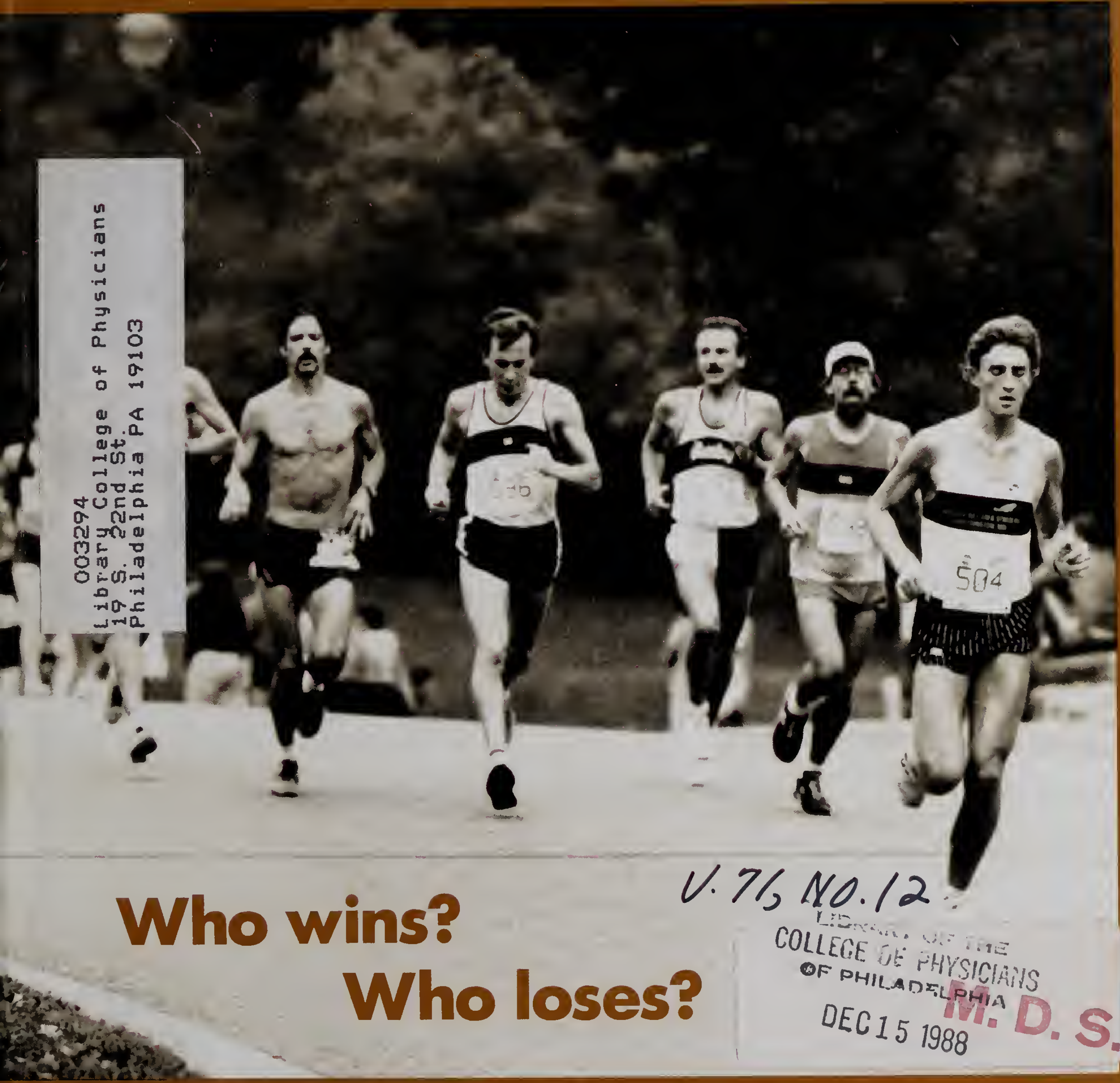

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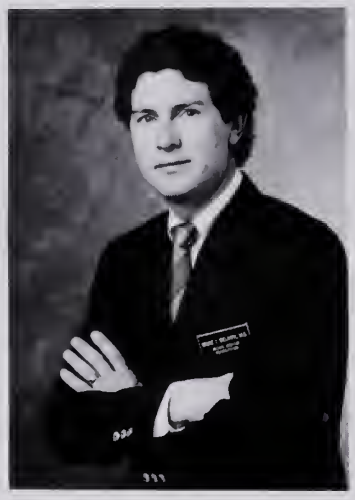

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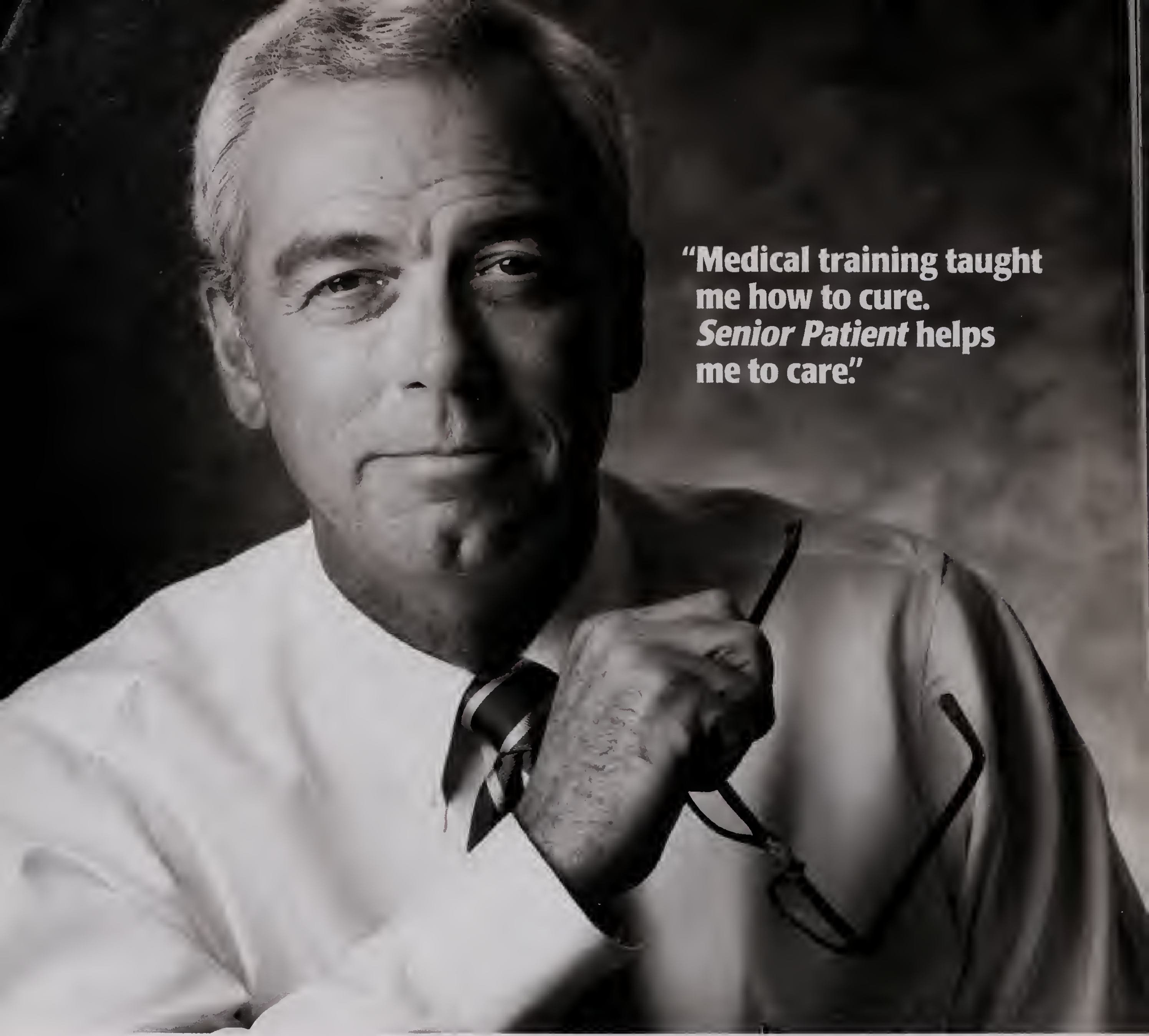
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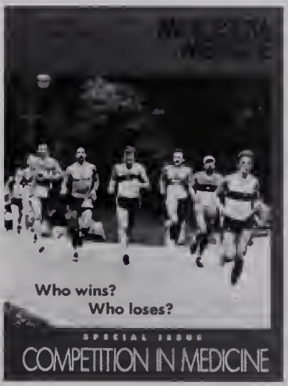

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**COMPETITION** It's a fact of life for physicians in Minnesota. Some have dropped out of the race to practice elsewhere; more are seeing it through to the finish. This special issue of *Minnesota Medicine* examines the consequences of competition in medicine.

The cover photo, picturing the leaders in a recent Twin Cities Marathon, was taken by Rob Levine, a Minneapolis photographer.

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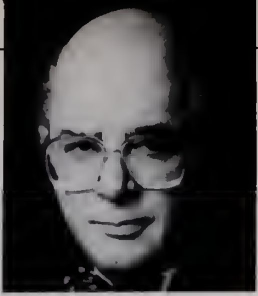

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## EDITOR'S NOTEBOOK

# Fifteen Years of Twin Cities Health Care Competition

This editorial and this issue are about the premises and consequences of 15 years of heated competition in the Twin Cities medical marketplace. There is much about this competition I don't like. For example, I don't like the climate of distrust of physicians created by competitive reformers. Doctors have enough to worry about without having their motives demeaned. Nor do I see how physician business distractions advance the cause of quality medicine. Finally, I'm far from persuaded that the competitive revolution, Twin Cities style, has achieved its aims of making medical care less expensive, more rational, and better.

### The Great Hope

At the same time, I'm aware the corporate approach to care has one over-arching theoretical advantage. This advantage is that you can assemble a management team to guide physicians and other health care professionals toward systematic, organized, purposeful, and measurable care. This sounds good in theory, and it works well in isolated instances, for example, with prenatal care and highly technical procedures performed by teams, and in certain organizations, such as staff HMOs or multispecialty clinics.

But in the community at large, this advantage remains theoretical. We are told the only missing link to comprehensive care by quality doctors working in quality hospitals is more patient outcome data, massaged by computers in such a way to discriminate between good and bad physicians and hospitals. I remain skeptical. I believe enduring human relationships and past experiences, and reputations for excellence, will continue to be the bedrock of referral decisions.

### What's Happened the Last 15 Years

This issue is about the restructuring of the Twin Cities health care system. This restructuring has been telescoped into 15 short years, and it has effected everybody who reads these words.

This issue is about a paradigm shift from a system run by physicians to one run by managers. It's about what happens when those who pay for care decide health care has become too expensive and too important to be left to physicians and to hospitals to decide who gets what care and at what price. It's about various sectors of society muddling toward a system that "rationalizes" who's going to spend medical money, on whom, and for what reasons.

It's about a profession caught in the middle, trying to make up its mind, its mission, and its loyalties. Do our loyalties lie with patients or with employers? It's about and by people who engineered the restructuring, and those of us who have been caught in the grinding gears of radical change. It's about money, medicine, and people. It's about you and me and how we react to the stress of change. It's about the consequences of the competitive revolution in medicine.

### Stepping Back to Look at the Landscape

During my 15 years as editor of *Minnesota Medicine*, I've made a habit of stepping back every five years for a long look at the medical landscape.

Why? Well, landscapes change, particularly if they contain tricky competitive terrain. New organizations crop up, like Family Health Plan. Old ones disappear, like the MORE and Health Partners HMOs. Even the terrain contour shifts, like the shift from staff model HMOs to "open-ended HMOs" or triple-option plans. Old faces disappear from board rooms, like Richard Burke from Physicians Health Plan, and new ones surface, like Dr. James Ehlen, the new chief executive officer of Physicians Health Plan.

Buildings change too. In the last five years, a new University Hospital and a new Veterans Administration complex have risen on the horizon. The Mayo Clinic has opened satellites in Jacksonville and Scottsdale and is in the midst of a building boom in Rochester. In the Twin Cities, many formerly independent hospitals have vanished, swept up in mergers and acquisitions by such generic-sounding chains as Health One and HealthEast. In the Twin Cities, we've taken hospitals by the heels and turned them upside down to empty them of money and beds. Now we're left with four hospital megacorporations, one large independent hospital, and four academic or government hospitals. Only four major HMOs remain. Physicians are doing what they have to do to survive—joining HMOs, becoming entrepreneurs, switching careers, becoming employees, merging with other groups, or simply leaving town for greener pastures.

In our feature article, we describe the thinking of four talented physicians who have left Minnesota. For these physicians, and others, the training is long, the art and science are difficult, and the practice lifetime is short. Why not, they ask, go where they are needed and can practice their profession rather than grapple with business matters?

### Five Year Landscape Pictures

In 1973, when I first took the *Minnesota Medicine* editorship, health care competition was still mostly a glint in Paul Ellwood's eye. But the die was cast. He had sold the HMO concept to President Nixon, to Twin Cities' business leaders, to the Hennepin County medical leadership, and to the then St. Louis Park Clinic. The rest, as the cliche says, is history. Within two years, the current major HMOs were in business, poised for rapid expansion.

By 1978, all the current major health care marketing organizations—Group Health, MedCenters, Share, Physicians Health Plan, and the Blues—were flailing away, trying to outdo each other in enrollees. HMOs were on the way, on the go, and on the grow. Market share was the name of the game. Every patient—old or young, sick or well, public or private—became fair game. Share decided to go for the Senior HMO market, and the rest of the HMOs followed them over the white cliffs of older.

By 1983, it was clear, even to the most opaque observer, that the Twin Cities medical market was radically restructuring. The changes were so striking that at *Minnesota Medicine* we came out with a special November 1983 issue "The Coming of Corporations." We interviewed everybody we could find, and we said, among other things, that the industrialization of medicine was escalating, that medical professionals were being transformed into corporate functionaries, that sovereignty over the health care was being transferred to managers and clerks, and that health care was being marketed on a vast scale as a commodity. What we didn't say was that nobody had thought through the consequences.

### Failed Premises and Promises

As I write, it is late 1988. Once again the mood and times have changed. Failed premises have resulted in failed promises. We're now trying to sort through the competitive debris to find where we go from here. Let me describe the premises and their consequences.

**Failed premises have resulted in failed promises. We're now trying to sort through the competitive debris to find where we go from here.**

► The first premise of the competitive revolution—that if only we could herd physicians and hospital administrators into corporate corrals, we could get these professionals to change their cultural stripes and modify their behavior to become more efficient, productive, and rational—has proven to be faulty.

As Paul Ellwood admits in his interview, doctors and hospitals haven't changed all that much. About all we've done, thanks to HMOs and DRGs and generalized cost consciousness, is change the site for practice from hospitals to outpatient settings. Meanwhile doctors still stubbornly act as patient advocates; give patients what the physicians think they need or patients demand; practice defensive medicine to protect themselves from lawsuits; fight to protect their incomes and independence; and, in deciding what to treat and how many services to deliver, follow their own judgment, their training, and the latest technology trends. The consequences are that medical practice remains pretty much the same, quality is not measurably different, and costs are still climbing about the same as elsewhere.

► The second premise of the competitive revolution—that somehow and some way organizations would "rationalize" care and make that care less expensive and of higher quality—has also proven elusive to purchasers. Purchasers still don't have a rational handle on the bang they get for their bucks. Partly this is because physicians still practice one-on-one medicine, a human transaction fraught with variables.

Partly it's because medical care doesn't follow the rules and laws of industrial models and other service industries. Partly it's because physicians still consider themselves independent professionals. And, if I may pick up on Ellwood's latest complaint, it may be mainly because physicians don't know the statistical outcomes of various approaches. How could we? That information still rests in data banks, unavailable to practicing physicians in any intelligible form. The consequences of this failed premise has been that health care cost trends are driving purchasers up and out of their money trees. Furthermore, they are losing faith in HMOs as a means of controlling costs.

► The third premise was that we could somehow control demand through prepaid organizations. For the elderly in HMOs, particularly in rural regions, this has proven to be financially disastrous. I don't know what we expected. For when you offer first dollar comprehensive coverage with no barriers to care to an aging population, you open the floodgates to pent-up demands. We also badly underestimated the demand for access to high technology—a demand physicians seem powerless to contain, even if this access comes at their own personal expense. The consequences of this faulty premise are that we now know we have a long way to go before we learn to manage modern medical miracles and to modulate the public's expectation that it has a "right" to share these miracles.

► The fourth premise was that health care was strictly a "business," a "market,," or an "industry." This being the case, surely the health care enterprise would adapt itself readily to being a subdivision of the greater culture and the greater economy. This premise further supposed that all hospitals and physicians were equal and interchangeable, and that people would switch allegiances on the basis of price and promises of comprehensive care with no barriers.

This premise, too, has proved to be lacking. To begin with, health care, like politics, rests on local connections. Furthermore, good medicine rests on pre-existing personal relationships, on traditions of good and intimate service, and on perceptions of excellence based on these traditional relationships. The consequence has been that the more things have changed, the more they have remained the same. It takes more than clever marketing and corporate image making, for example, to change referral relationships between doctors.

► The fifth premise was that the corporate transformation of medicine could be carried out without the cooperation and "buying in" of physicians and could be done at their expense. You don't need to look further than the physicians rebellion against Physicians Health Plan and United Health Care, and the revolt of Park Nicollet Clinic physicians against their own leadership and that of MedCenters Health Plan, to understand that physician collaboration is fundamental to any plan's success. The consequence of this flawed premise is that health plans are now courting physicians, asking them to serve in heavier numbers on their boards, sharing profits with them, and even naming them as their chief executives.

► The sixth premise was that the "providers" of care would forever put up with the shifting of financial risk onto their shoulders. What has happened, of course, is that hospitals have organized into bigger chains to give themselves the clout to negotiate. And physicians have either refused to participate in capitated plans, have threatened to leave plans, or have simply given up practice, retired, or moved on. You may be able to economically bludgeon hospitals and physicians early, but in the long run, you need them if you're going to have a health plan.

► The seventh premise was that competing prepaid health care plans would act the same and make competitors act the same. Each HMO differs, has its own culture, and its own mission. To generalize about HMOs and to expect them or the competition to act the same is a mistake. But, at the same time, the distinctions between HMOs and PPOs and Fee-for-Service plans is rapidly blurring. What was unexpected was that plans like PHP and the Blues would take the best features of HMOs and Fee-for-Service and combine them into hybrid plans. This hybridizing, plus wide geographic networks of hospitals and physicians, stopped classic pure HMOs in their tracks and forced them to diversify their own products. Another unexpected development has been that purchasers have found offering multiple HMOs was a tedious and expensive business. Now they have turned to plans that have the systems and networks to offer multiple products. The consequence of these developments has been that the market has chosen a choice of options and flexibility combined with financial discipline over pure price from a single option vendor.

► The eighth and final premise was that the public would accept cost containment without a complaint and would go instead for the best price with its attendant restrictions. The flooding of nearly 400,000 Minnesotans into HMOs that offered access to higher-priced options has blown this theory to smithereens. And, if the explosion of the ethics movement is any indication, the public and the clergy and policy makers are very concerned indeed about the ethical choices posed by high technology and high prices.

So where do these premises and consequences leave us? They leave us with a permanently altered system, which, for want of a better name, we call a managed care system. The system still is not "managed," but as Dr. Kent Wilson says in his interview, it is much more complicated.

We have gone from a two-party system—with physicians and patients interacting—to a four-party system. The third parties are the fiscal intermediaries—HMOs, PPOs, and others—each trying to contain costs with their own sets of rules. The fourth parties are the big purchasers—government, corporations, unions, and others—each demanding accountability for its dollars and access to the data that tell what they are getting for their dollars.

## The Twin Cities—The New Term

In the Twin Cities, I think we're entering a period, which may last three years or so, of greater stability. In 1987, the entire system crashed, with heavy losses all around. Collectively all of us—patients, purchasers, hospitals, physicians, and politicians—realized we were going to have to raise premiums to stabilize the system, to set aside money for reserves to avoid insolvency, to keep major clinics and organizations from failing, to pay for the level of technology and access to the best care, and to keep physicians from jumping ship and leaving the plans. At one point in early and mid 1988, Physicians Health Plan was close to disintegrating because of the threatened departure of multiple major physician groups. But Physicians Health Plan has changed that by making special arrangements and concessions to 16 large core groups, which make up perhaps 25 percent of its business. The Blues have also strengthened their networks. But MedCenters and Share remain shaky, but with increased premiums, should stabilize.

How long this stability will last I don't know. For greater cost efficiency, I still anticipate closure of marginal hospitals and dropping of "excessive" physicians by major plans. I also believe the major HMOs, except for Group Health, will lose market share to the Blues, but will regain their profitability.

That's the 1988 five-year market report for the Twin Cities. ■

# A Turbulent Transition for Medicine

**REECE:** *Dr. Wilson, why don't we begin by asking your personal background, your specialty, your upbringing.*

**WILSON:** I was born and raised in Bemidji. My dad was football coach there and a good one. I went to undergraduate school and medical school at the University of Minnesota. I interned and spent service time out of Minnesota, but came back for a fellowship in otolaryngology.

**REECE:** *How long have you practiced in St. Paul?*

**WILSON:** I've been in practice since 1974 in St. Paul as an otolaryngologist.

**REECE:** *So you've been here smack dab in the midst of this turbulent transition in medicine.*

**WILSON:** Yes. I'm convinced this transition, from 1973 until now, is the most turbulent period of the 20th century for American medicine. The first 20 years of this century, with the diploma mills and the Flexner Report, were wild, but nothing like this.

**REECE:** *You were chairman of the Minnesota Medical Association Ad Hoc Committee on Competition in Medicine. Before you tell me about that committee, tell me what you think are the consequences of competition.*

**WILSON:** The consequences of competition are that there are clearly more institutional participants involved in the physician/patient transaction than there were before, each with their own interest. One of the things that the committee did in its work was to clearly define the four-party system that we currently deal with, that is, the patient as the first party, the physician as the second party, intermediaries of various sorts as the third party, whether they be insurance companies, PPOs, HMOs, or other intermediaries, and then the fourth party; those institutions—whether they be government or industry, or other agencies who may view themselves as ultimate purchasers of medical care—who tend to structure the relationships between the first, second, and third parties. The committee took an extremely broad view of the environment in which

KENT WILSON, M.D.

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*I have known Kent for at least 10 years. He radiates sincerity and earnestness. As chairman of the Minnesota Medical Association's Ad Hoc Committee on Competition in Medicine, he appears deeply moved, not only by the present distress and despair of physicians, but also by how we got into this mess. He wants to believe we can philosophically resolve the current ethical and economic catch-22 for the good of all.*

*In the spring of 1986, more than two and one-half years ago, the Minnesota Medical Association appointed a committee to study the impact of the managed care system on physicians, patients, hospitals, and health care buyers. The Association also told the committee to come up with ideas for an educational program so physicians could function better in the medical marketplace.*

*From reading the committee's report, attending a hearing on the report at this spring's Minnesota Medical Association meeting, and listening to Kent during this interview, I gather this whole undertaking has turned out to be a can of worms.*

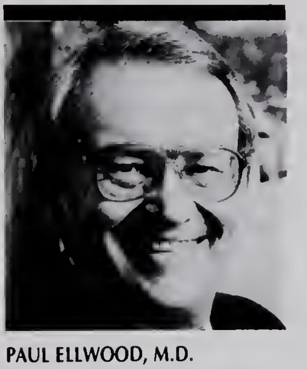
► *First, the committee listened to a string of experts of various political stripes and intellectual persuasions whose expertise touched on health care.*

► *Second, committee members tried to sort out the forces and events that led to the present economic and corporate transformation of medicine.*

► *Third, they had to balance the views of those who still think the old professionalism and the patient-physician bond are sacred and ought to be moved back to center stage, and those who believe the new managed care system, with third and fourth parties intervening and managing care, represents an irreversible and accomplished fact.*

► *Fourth, the committee had to deal with physicians, who, like themselves, feel increasingly helpless in the face of the bureaucratization of medicine and the morass of new rules that take the joy and profit out of practicing medicine.*

# Truths and Consequences of Competition



PAUL ELLWOOD, M.D.

**REECE:** *Paul, you've been active the last 20 years reshaping the American medical system from scattered fiefdoms of independent practitioners toward groups of organized competing organizations. In the Twin Cities, this movement has been in full bloom for the last 15 years. We've had intense competition here. When did this idea of restructuring the medical system take root in your mind?*

**ELLWOOD:** It didn't occur at any one moment. I was in the unusual position of practicing medicine and having responsibility for a medical institution. From 1952 until 1968, I was a pediatrician, a neurologist, and a psychiatrist. At the same time, I was responsible for the Kenny Rehabilitation Institute.

**REECE:** *But did something you read trigger the thought that something ought to be done about the way medicine was organized?*

**ELLWOOD:** Yes, as part of my interest in management, Peter Drucker's book "The Concept of the Corporation" influenced me. He said that in any complex enterprise that impersonal, quantitative information on the performance of the enterprise is essential to making it function well. Otherwise one person just looks over another person's shoulder to find out whether things are working. I felt that one person looking over another person's shoulder—so called peer review—was not enough. That stood us in good stead for the first half of this century. I figured medicine had become so complicated, so long term in its impact, that we had to do something different.

**REECE:** *What was your principal objective in the beginning? What did you hope to accomplish?*

**ELLWOOD:** I hope to accomplish a change in the organization and incentives in medical care to increase the likelihood that medical care will improve people's lives. I also want to avoid the necessity for a government takeover of the health system. I want to keep the health system independent and, at the same time, have it function as a modern organizational enterprise.

**REECE:** *So in a sense you simply wanted to improve people's lives. You had no thought your ideas might radically reorder the economic structure of medicine.*

*continued*

*When I conceived this issue, I knew I would be interviewing Paul Ellwood. Paul persuaded Twin Cities' leaders to have a go at the competition idea; he kept pouring fuel on the competition fires when they flickered; he convinced government, corporate, and community leaders that medicine would function and fit better as a corporate part of our free enterprise culture; and he has served as the lightning rod for criticism and a source of dismay among physicians.*

*I have known Paul for at least 15 years, and I still have mixed feelings about him.*

*► I admire him immensely as a creative idea man. Indeed, I think of him as a medical missionary of ideas. Perhaps this is because I know Paul's father was a medical missionary. Perhaps it's because Paul always operates from moral highground, e.g., he traces his first HMO ideas to his desire to improve the people's health, and he says current "outcomes management" is simply a means to guarantee that improvement.*

*I also think of Paul as the horticulturist of health care theory. He likes to plant theories, watch them take root, cultivate them, work to protect them, and watch them grow.*

*► At the same time, I have reservations about the truths and consequences of Paul's ideas. Through his various activities, he has helped turn the professional and economic worlds of Twin Cities' physicians upside down. He may speak great truths, but what are the positive consequences?*

*While I have reservations about Paul's ideas, I don't for a minute doubt their power. I believe him when he says that measuring the outcomes of medical care, aggregating those data into banks, and leveraging the resulting information into improved quality of care represents the next revolution of medical care. I hope, as he hopes, that physicians will be trusted partners, not bit-players or functionaries, in this revolution.*

**ELLWOOD:** No. I didn't have that as a primary objective. The idea of using economics—competition and market forces—to reshape the health system was simply a matter of matching my reform ideas to the economic objectives of the country and the prevailing economic ideas of the government.

**REECE:** *You're noted as the man who sold Nixon on the idea of HMOs. How did that come about? What was the environment then? Why did he buy into your idea?*

**ELLWOOD:** Nixon had declared there was a health crisis in the country. He and his administration were having trouble predicting what their costs were going to be in Medicare and Medicaid. They felt that health inflation was a serious problem. But one thing that a president shouldn't do is declare that there's a crisis without having some idea of how he's going to solve the crisis. His administration didn't. Some people in his administration had heard that I had ideas on restructuring the health system. They sought me out in 1970, and I proposed HMOs and competition. Within a matter of hours, the Nixon administration began its commitment to making these changes that we're now experiencing. This commitment culminated in a presidential health initiative and the HMO Act of 1973.

**REECE:** *The purpose of this issue of* Minnesota Medicine *is to summarize what's happened in Minnesota and the nation these last 15 years. What are the consequences of all this competition we've had since 1973? What have we learned?*

**ELLWOOD:** One, the health system has been transformed into what we now call managed care. Managed care has reduced the frequency and the duration of hospitalization. It has made care more easily available, but it has not affected in any material way the quality of medical care or the content of medical care. Doctors, whether they're in managed care organizations or not, continue to treat patients in the traditional way. So the impact on quality has been negligible, except I do think it's better not to be in the hospital than to be in the hospital. Beyond that, I don't think it's had a very profound influence on what happens to patients. We don't know what its impact has been on health. It does appear, however, that medical inflation is generally lower in this community than in others. And in terms of vital statistics, Minnesotans continue to rate second only to Hawaiians in longevity.

**Doctors, whether they're in managed care organizations or not, continue to treat patients in the traditional way. The impact on quality has been negligible.**

**REECE:** *Has "managed care" basically changed the way doctors think?*

**ELLWOOD:** I suppose doctors are more conscious of the cost implications of what they're doing. But if physicians are uncertain, as they are in many instances, as to what will be effective in medical care, if there is doubt about the full impact of a medical intervention, then cost consciousness doesn't mean much.

**REECE:** *What were your original assumptions when you initiated these changes, and have these assumptions been born out?*

**ELLWOOD:** No, they haven't. But I still believe some will be as the situation evolves.

I assumed by extending the period of time that a set of doctors was responsible for the comprehensive care of patients, and by prolonging the financial transaction between the doctors and patients from a visit to a year, that greater emphasis would be given to prevention, and total health.

I assumed the HMOs would take advantage of the information they could collect on large numbers of people for whom they were responsible, and they would use that to measure what influence medical care was having on their enrollees. PHP, for instance, has the responsibility for the health of residents of the Twin Cities. What fabulous potential health power!

I assumed we could use that information to improve the quality of medical care, to help doctors be better doctors, to teach patients to choose wisely, and to guide employers in their purchase of health benefits.

I assumed, in other words, that availability of large numbers of people that doctors had responsibility for over extended periods of time would lead to a revolution in the way we follow and manage patients. After learning more about how medical care was affecting them, I assumed we would then constantly improve the way we practiced medicine.

**REECE:** *And the revolution did not occur?*

**ELLWOOD:** That phase of the revolution has not occured yet.

**REECE:** *Why not?*

**ELLWOOD:** I underestimated the strength of the existing medical culture. This culture operates on the premise that physician autonomy, physician thoroughness, physician training, and the processes of medical care are the way in which you control the quality of medical care. No quality assurance mechanism can really work if it focuses only on what doctors do to patients. It's got to look at the results it gets. We don't objectively monitor outcomes, and traditionally we haven't. Until we change this paradigm and the cultural milieu that sustains it, I don't believe the changes in the structure and incentives in the health system are going to make all that much difference to patients' lives or satisfy purchasers that they are getting full value.

**REECE:** *Earlier you said that we've overestimated the ability of medicine to measure the impact of medical care on clinical status and quality of life. Are we any closer to that knowledge?*

**ELLWOOD:** No. We're more sensitive to it. We're more introspective, perhaps in part because the medical literature is full of self-criticisms of our ability to move from theory to practice in medicine. It's clear that there are many groups that are seeking to define what is appropriate care. But again the various appropriateness studies, the NIH consensus panels, the specialty society efforts to do appropriateness assessments, are all based on assumptions about our knowledge of outcomes. In fact, the participants in the Rand consensus panels are asked: "Is this procedure going to do more good than harm?" without ever asking them what is good and what is harm. So we still apparently feel that we ourselves define what is good and what is harmful and that the traditional observations of our patients and the limited scope of clinical trials are sufficient to tell us what it takes to do a good job.

My contention is that given the current complexity of medical care, that is impossible. However, there's now a greater readiness to embrace the idea of following much more carefully the impact of medical care on people's clinical status and their quality of life and to attempt to make certain that those things that are done with patients are consistently effective.

REECE: *You seem disappointed, not only about physician resistance to change but about the exactness of medical science in determining outcomes. In your mind, physicians haven't come far along the path of improving care.*

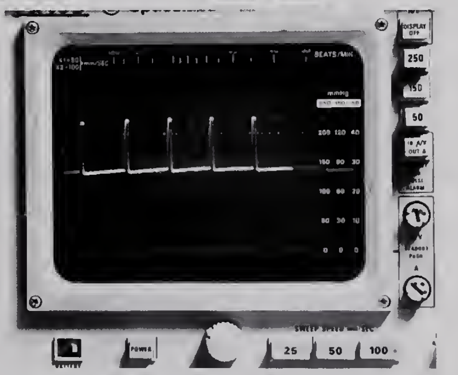
ELLWOOD: I am not satisfied. But I think it can be fixed. It's not the kind of hopeless outlook that you might attach to so many social problems. This is a problem that's solvable. Doctors are willing to try new technologies that rely on computers, and the organizational framework to measure and manage the impact of medical care is in place. We simply have to gather information on what is specifically being done with patients and follow them closely enough in a systematic manner to find out what effects they have and then modify what we do with patients based on what we learned. In other words, we need to conduct the practice of medicine as if we are participating in continuous formal longitudinal series.

**Doctors, by their insistence on autonomy, have worked against themselves.**

REECE: *But, at this stage, you're saying in effect, that we don't know what constitutes superior medicine or inferior medicine?*

ELLWOOD: That's overstating it. Certainly in acute care there are dramatic interventions that are predictable. They work. But in more chronic conditions, sometimes treatment works and sometimes it doesn't, without our full knowledge of the consequences or cause and effect.

It's differentiating between those patients who are going to clearly benefit from treatment and those who aren't, and in identifying the other impacts that medical care has on the quality of peoples' lives, that is a stumbling block right now.



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Doctors, by their insistence on autonomy, have worked against themselves. As medical care has become more complex, the ability of physicians to control what is happening to patients, and therefore control what's happening to their own destiny, is eroded by the fragmentation of the clinical process. Doctors only control little pieces of it.

But I've noticed in the course of advocating the outcomes management idea that doctors are sensitive to the importance of huge computerized data bases. To measure and manage the impact medical care has on people, you have to have a big data base. Physicians must have more control and understanding about how patients are doing. Who's got the data bases? Insurance companies, managed care organizations, and to some extent hospitals. But the average physician controls only a limited data base, with the charts sitting in his office files. When you have to have thousands or millions of people participating in a series to reach statistically valid conclusions, the doctor is once again at a disadvantage. The group practices have immediate advantages when it comes to managing information. The Mayo Clinic is famous for the quality of its medical record system. The classical Mayo paper has always been based on a collection of cases drawn over the years from the fabulous unit medical record system that the Mayo Clinic has accumulated.

So, while we've insisted on autonomy for professional and economic reasons, everything that I can see about the health system and where it's going shows that that insistence on autonomy is working against the autonomy of physicians, or at least the autonomy of the profession. Because the people who control the big data bases are getting to the point where they can know more about how patients are doing than the people who are taking care of the patients.

**REECE:** *Wait a minute. The individualism of physicians doesn't rest simply on doctors' desire for autonomy and individual economic gain. It also has something to do with confidentiality, with the sacredness of the patient-physician encounter.*

**ELLWOOD:** But you can still have individuals dealing with individuals, and still have physicians participate in some larger organization that is pooling their records and facilitating follow-up. It's one thing to insist on an intimate relationship between a doctor and a patient, but that doesn't require that the relationship between doctors and doctors and their records be independent and autonomous.

**The managed care label is a misnomer, because it's really not managing care, it's managing the location of medical care.**

**REECE:** *Perhaps not. But let's get back to the consequences of competition. What are your major disappointments about the way the system has evolved?*

**ELLWOOD:** My major disappointment is the failure of the restructuring to influence in a substantial way the way medicine is practiced or in improving the quality of that practice.

**REECE:** *So the system has absorbed huge changes, but nothing fundamentally has changed?*

**ELLWOOD:** That's the way I would summarize it. Nothing has changed in a fundamental way about our management of patients.

**REECE:** *Yet in physicians' minds, something has changed—their autonomy, their income, and their influence. And for the worse. You don't see it that way?*

**ELLWOOD:** Sure the economic bargaining power of doctors has slipped. There are also greater attempts by outsiders to influence where people go for their care, attempts to manipulate the quantity of care that doctors provide with money. And certainly where the care is provided has been moved—out of the hospital instead of in it to a greater extent. That's the single most profound change.

**REECE:** *So, two of the most fundamental changes are one, that we now have in existence a large managed care industry and two, we've shifted the focus of care from hospitals to the outpatient sites.*

**ELLWOOD:** The managed care label is a misnomer, because it's really not managing care, it's managing the *location* of medical care and seeking to influence to an increasing extent where people get their care, seeking to buy care at lower prices.

But "managed care" hasn't yet affected to a significant degree what doctors actually do with their patients. Doctors are just as inclined to order a laboratory test if they think it's appropriate. *In fact,* they are more inclined to do so. Operations that were around at the time that HMOs were introduced have actually become more common. Caesarean sections, lens procedures, hysterectomies, for example, have increased in frequency during this period of time. Women living in one part of the Twin Cities are four times as likely to have a hysterectomy as those who live in another part of the community. Yet they are people who have exactly the same health benefits. So economic forces aren't responsible for the difference. I just think doctors have continued to practice the kind of medicine they believe they should practice. The differences are due to scientific uncertainly about effectiveness.

**REECE:** *But let's not blame doctors for practice variability. Don't you think the variation is partly because physicians have been isolated from the data. As a gynecologist, you don't know how many hysterectomies are done across town or in another part of the state.*

**ELLWOOD:** Whose problem is that? Doctors have had and continue to have the opportunity to attack this problem. After all, Blue Shield was a doctor insurance company, where a lot of this started. Doctors right from the outset could have said Blue Shield is a financial arrangement, but it's also an arrangement where we can find out more about how our patients are doing. Sadly, the people who have chosen to use this information to find out about the impact of medical care on patients are the people who control these data bases, and those who pay the bills. Medicine desperately needs leaders who understand the everyday practices of medicine and have the vision to shape these larger technological, political, and social forces.

I don't think I can overstate the hazard that now exists for medicine if they fail to capture these information systems. In complex enterprises, as Drucker said 30 years ago, the people who control the impersonal quantitative information about the performance of the enterprise control the enterprise. We are what we measure. If doctors' own personal experiences with a limited number of different patients in a constantly changing technology is insufficient to really allow them to know what is the optimal treatment for chronically ill patients, then those who've got enough information to make those kinds of comparisons end up knowing more about medicine than we do.

**REECE:** *In the sense of large numbers, they know more about it, but not in the sense of knowing what a human being is expecting or demanding in the office.*

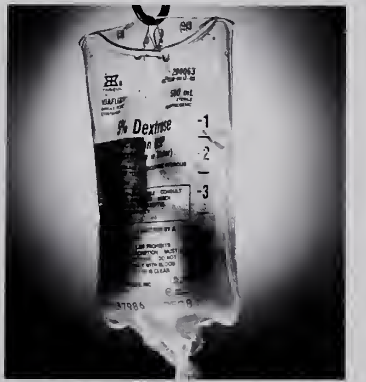
**ELLWOOD:** In the sense of knowing whether a given intervention consistently produces a given result.

**REECE:** *So the future practice of medicine will be dictated by those who own the data?*

**ELLWOOD:** Yes. By those who understand and interpret the data. And the most urgent thing for doctors to do is to begin measuring the influence that medical care is having on people's lives and understand and control those data systems. One of the offshoots of a recent Shattuck* lecture that I gave urging that we move to measuring health outcomes was that the Massachusetts Medical Society acknowledged that medical outcomes are where the action is. Bud Relman, the editor, is now starting to say that the next revolution of medical care is this revolution of assessments and outcomes. And the Massachusetts Medical Society has decided that it will make every effort it can to understand and control medical data bases. The society has proposed inserting outcomes management into its PRO program as a first step. Look at the current presidential election. It's all about controlling the flow of information to people through media, not going out and pressing the flesh.

**REECE:** *Information and data are, of course, both qualitative and quantitative and medicine, both "high touch" and "high tech."*

**ELLWOOD:** Right. And any data



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base has to have both elements. It has to measure the things about medicine that really influence people's lives, but the amount of variation between patients, the chronicity of illness, and the advances in technology lead to a situation where the data bases have to be huge in order for the statistics to have any real meaning.

And that's the dilemma of the individual physician. They're dealing with a series of one, particularly chronically ill patients, each different from each other. If you've seen a case of something now, and you saw another one like it five years ago, and you managed the one like it right five years ago, chances are the methods for managing that patient have changed drastically in the ensuing five years. So the prior experience doesn't necessarily mean all that much even if you can remember it or find the chart.

REECE: *Physicians often complain that the data gatherers and managers don't understand the quality of life aspect. For example, a hysterectomy may not be indicated, but the patient who is no longer bleeding will live a better life. How do we address those questions?*

ELLWOOD: I think we have to measure those subjective elements of medical care just as much as we measure blood chemistries. These feelings of a better life are just as real a part of medical care as a change in blood sugar level. The quality of life measurement systems are sound psychometric instruments and are ready to be applied now.

REECE: *Physicians also say that the demand of patients for technological intervention to improve their lot in life is more intense than it ever was.*

ELLWOOD: That's probably true, but I would caution against the use of financial disincentives to contain that demand. I suspect that the use of deductibles and coinsurance to reduce patient demand has run its course. Economic research shows that financial disincentives, while they do influence the frequency with which people go to the doctor, also keep sick people out as much as they keep well people out. On the other hand, my contention would be that supplying patients with better information on the potential positive and negative impacts of medical care on the quality of their lives will have a greater influence on the demand for medical care than any single thing we can do in medical care right now.

**The most promising method for enhancing the quality and impact of the biological side of medicine is to strengthen the information and communication sides.**

REECE: *What about supplying that information to physicians?*

ELLWOOD: Same thing. But my guess is that more precise information about the pluses and minuses of a procedure will have a greater quantitative influence on patients than doctors. Physicians who know how to do an operation believe in what they do. But they don't necessarily know what the patient's value system is, for instance, with a prostotectomy, where the procedure is very effective, 85 percent of the time. On the other hand, the complications of incontinence and impotence are relatively low (five percent or so), but they're very powerful deterrents to patients if they understood what the consequences are of continuing to live with a disability and what the consequences are of being cured but having these very profound complications. So, my contention would be that as we supply patients and doctors with increasing amounts of information about precise impact of medical care on quality of life and clinical outcomes, the demand for services by patients will be influenced as much, if not more so, by the supply of physicians.

REECE: *So you contend that the ideal future will be shaped by information.*

ELLWOOD: Yes. And our results. I believe medical care is an inseparable combination of biological science, informatics, and decision science. The most promising method for enhancing the quality and impact of the biological side of medicine is to strengthen the information and communication sides.

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* Ellwood, P: Shattuck Lecture—Outcomes Management: A Technology of Patient Experience. 318:1549-1556. N Engl J Med, 1988.

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# LETTERS TO THE EDITOR

## More Problems with PRO

I read with interest Richard Dinter's essay, "The PRO: Another Knife in the Heart" (*Minnesota Medicine*, September 1988). About two years ago, I was asked to review a case in which a physician in Minnesota was being blamed for "flagrant violation" as defined by the PRO examiners. In this case, a patient had been discharged from the hospital, returned within three days, and died. During the period immediately prior to death, the patient was in low output metabolic acidosis, and the potassium rose to abnormal levels. The stated reason for banning the physician is that he didn't treat the hyperkalemia. When I reviewed the entire outpatient medical record, I found a series of notes by the physician that advised the patient to stop smoking with the patient refusing, that advised the patient to take insulin for his diabetes with the patient refusing, and a subsequent history of multiple strokes and myocardial infarctions. On review of the entire evidence, it was obvious that these were the notes of an outstanding physician, not a flagrant violator of medical ethics.

The experience deepened my pessimism about the survival of rural medicine in Minnesota. Not only are the rural physicians being financially assaulted by an obviously inequitable payment system that the federal government seems unwilling to correct at the cost of a few dollars, but the morale of the physicians is being assaulted by the threats of banning on the basis of incomplete review of the record and unrealistic expectations. Rather than assuring access to a high quality of medicine, these two interventions are guaranteeing that the rural physician will soon be a thing of the past. This is not an optimistic time for rural Minnesotans who need medical care.

*Thomas E. Kottke, M.D.*
*Senior Associate Consultant*
*Department of Health Sciences Research*
*Mayo Clinic*
*Rochester, Minnesota*

## AIDS: Education Is the Answer

I was saddened, but not surprised, by Dr. Skogerboe's letter to the editor in the September 1988 issue of *Minnesota Medicine*. The most frightening epidemic we confront is not AIDS, but continued ignorance and apathy.

AIDS is not caused by homosexuality. AIDS is caused by a virus. A virus to which we are all susceptible and which we can easily avoid. People knowledgeable about HIV transmission do not get AIDS. Does Dr. Skogerboe counsel and educate all of his patients on HIV risk reduction? A survey of Minnesota physicians last year would indicate that if he is like most of our colleagues, he does not.

I share Dr. Skogerboe's concern about the lack of a unified public health response to AIDS. The Minnesota Department of Health has been a leader in dealing with AIDS. Physicians are leaders in our community and should work with them to be sure that the people do not become infected.

Applying words like "normal" or "abnormal" to homosexual behavior is meaningless and divisive. We are a nation that has been enriched by its diversity. Name calling and finger pointing tears apart the social fabric that holds us together and trivializes the importance of the individual.

Let us forget about old stereotypes, misconceptions, and rumors, and take a leadership role in our communities that will stop AIDS. A lesser response will leave our children with a scourge of even greater magnitude.

*Scott R. Strickland, M.D.*
*Park Nicollet Medical Center*
*Minneapolis, Minnesota*

## Questions "Percutaneous Discectomy"

I was quite surprised to read the publication "Percutaneous Discectomy: A New Day-Surgical Method for Herniated Lumbar Discs" by Charles D. Ray that appeared in the August *Minnesota Medicine* 71:485-488, 1988. My surprise emanates from the fact that *Minnesota Medicine* has become very selective in publishing invited scientific articles on medical diagnosis and treatment while devoting much space to discussion of the economics of health care. Dr. Ray's article describes a developing technique for the partial excision of lumbar intervertebral discs. The reasons given in your editorial for publishing the article include: 1) that the article "frankly confronts the problem of cost;" 2) that it illustrates the power of new technology; 3) that is has commercial connotations.

I cannot argue with the latter. However, the power of this new

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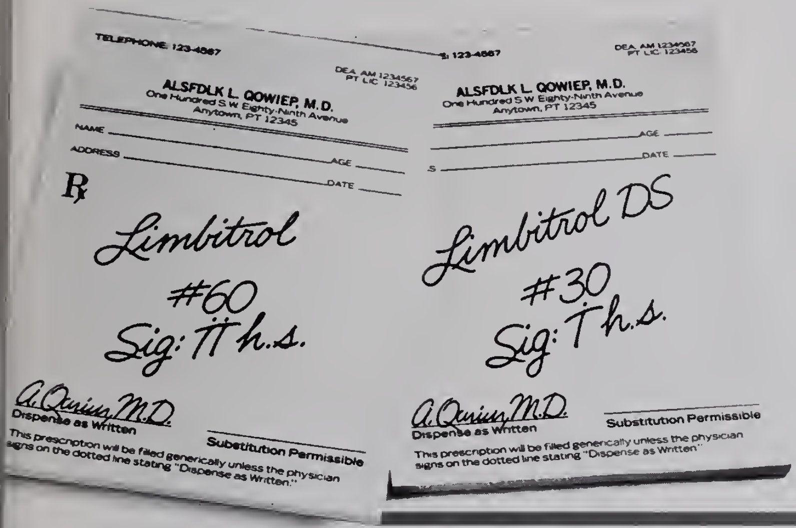

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**References:** **1.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **2.** Feighner VP, *et al: Psychopharmacology 61:*217-225, Mar 22, 1979.

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**Warnings:** Use with caution in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur when used with anticholinergics. Closely supervise cardiovascular patients. Arrhythmias, sinus tachycardia, prolongation of conduction time, myocardial infarction and stroke reported with tricyclic antidepressants, especially in high doses. Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (*e.g.,* operating machinery, driving).

***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations. Consider possibility of pregnancy when instituting therapy.**

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**Precautions:** Use cautiously in patients with a history of seizures, in hyperthyroid patients, those on thyroid medication, patients with impaired renal or hepatic function. Because of suicidal ideation in depressed patients, do not permit easy access to large quantities of drug. Periodic liver function tests and blood counts recommended during prolonged treatment. Amitriptyline may block action of guanethidine or similar antihypertensives. When tricyclic antidepressants are used concomitantly with cimetidine (Tagamet), clinically significant effects have been reported involving delayed elimination and increasing steady-state concentrations of the tricyclic drugs. Use of Limbitrol with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Should not be taken during the nursing period or by children under 12. In elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects. Inform patients to consult physician before increasing dose or abruptly discontinuing this drug.

**Adverse Reactions:** Most frequent: drowsiness, dry mouth, constipation, blurred vision, dizziness, bloating. Less frequent: vivid dreams, impotence, tremor, confusion, nasal congestion. Rare: granulocytopenia, jaundice, hepatic dysfunction. Others: many symptoms associated with depression including anorexia, fatigue, weakness, restlessness, lethargy.
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**Drug Abuse and Dependence:** Withdrawal symptoms similar to those noted with barbiturates and alcohol have occurred following abrupt discontinuance of chlordiazepoxide; more severe seen after excessive doses over extended periods; milder after taking continuously at therapeutic levels for several months. Withdrawal symptoms also reported with abrupt amitriptyline discontinuation. Therefore, after extended therapy, avoid abrupt discontinuation and taper dosage. Carefully supervise addiction-prone individuals because of predisposition to habituation and dependence.

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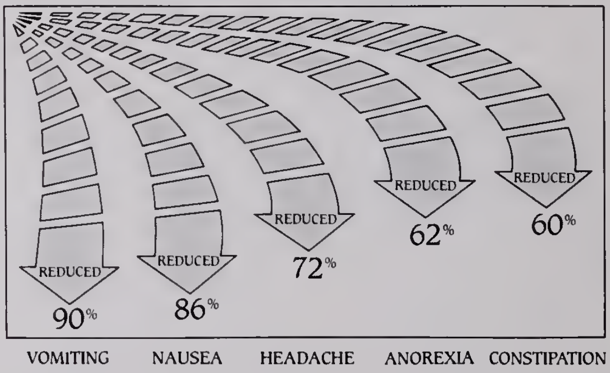

*Patients often presented with more than one somatic symptom.

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technology is unproven. Like every other surgical treatment for lumbar disc herniation, it has never been tested in a scientifically valid way against non-surgical or other surgical methods of management. Indeed, the manufacturers of the instrument have shown a remarkable lack of interest in such an evaluation. Secondly, the hope that the addition of percutaneous automated discectomy to the management of lumbar disc herniation will reduce the total cost of the management of lumbar disc herniation remains unproven. For the approximately 20 to 30 percent of patients who fail to improve with percutaneous discectomy, the cost of the procedure will simply be added to the standard cost of care. Because most surgeons performing percutaneous automated discectomy appear to be charging the same surgical fee for this procedure as they do for a standard discectomy (a charge that can be justified in terms of time required and risk accepted), because the patient charge for disposable equipment at most hospitals is in excess of $1,000 and may approach $1,800, and because hospitalization for microlumbar discectomy now often lasts only 24 hours (and in some cases is being done on an outpatient basis), the cost benefit is unclear.

Dr. Ray's article does not help to clarify any of these points. It serves simply as a forum to advertise the fact that he is performing the procedure. The procedure is, in fact, available through other neurosurgeons in Minnesota. Rather than speculate about the possible benefits of unproven technology, I think it would be preferable for those surgeons in Minnesota performing the procedure to join forces with public and private insurers and health maintenance organizations to mount a formal study of both the efficacy and economic benefit of this procedure. Then, perhaps, the unsubstantiated claims that this is a "plus-plus" technology improving both patient results and costs, could be evaluated in a rational way.

In the future, I would suggest that *Minnesota Medicine* would better serve its readers by publishing a balanced sampling of opinion about controversial treatment.

*Stephen J. Haines, M.D.*
*Associate Professor*
*Department of Neurosurgery*
*University of Minnesota*
*Minneapolis, Minnesota*

## Enjoys Interviews

I thoroughly enjoyed the interviews with Massachusetts physicians that were published in the September issue of *Minnesota Medicine*. You have my enthusiastic vote to do more of the same kind of interviewing, and I hope it will take you to other centers of controversy, science, and policy-making.

How about letting us hear from national political figures, scientists, and physicians from other countries? Although getting afield a bit from Minnesota, it is through such perspective that we are better able to understand ourselves and our profession here at home.

*Christopher R. Cowley, M.D.*
*Surgical Pathology*
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# The Health Care Manager of the Future: The Consumer

*George T. Morrow, II*

The managed health care industry has recently fallen on some rather hard times. Losses experienced by Minnesota HMOs in 1987 totaled nearly $23 million. Reports of substantial premium increases and shifts in enrollment—more than 70,000 enrollees in the case of one widely subscribed Twin Cities' HMO—continue to this day. All of this has occasioned much discussion. Oddly, very little of that discussion has focused on the real causes of the problem. More often than not, the problem has been ascribed to too much competition, (a charge strangely at odds with the vision of the industry's founders), or (more darkly), mismanagement. In fact, neither is true. It is not too much competition that has hurt the industry; it is too little, and of the wrong sort. It is not "poor" management; it is a lack of management.

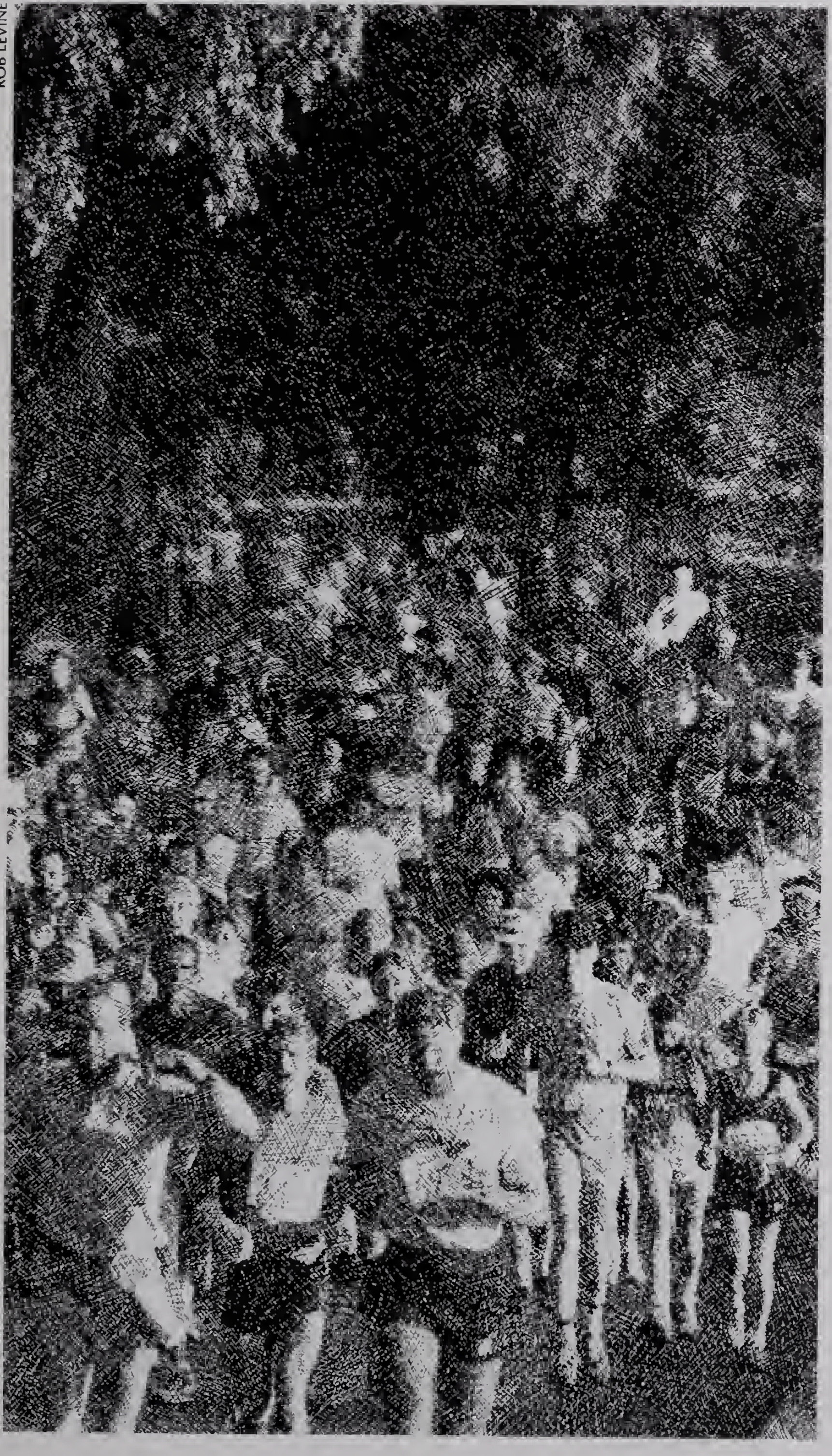
I have said elsewhere that the HMO industry in Minnesota was largely financed out of excess capacity in the hospital industry. What I meant was this: health care managers, by insisting upon a reduction in "hospital days," (a "direct" health care cost that by any measure was excessive) and in some cases by avoiding hospitalization altogether, reduced the total cost of health care. The reduction was both real and substantial. In 1986 alone, (the Gotterdammerung year of the industry), 142 new HMOs were created; in 1987—a year in which the bloom was definitely off the rose, there were only 75. Profits, or, (as they are generally described in Minnesota), surpluses, have been spent on systems, salaries and, especially in 1986 and 1987, claims. Nor was anyone particularly surprised to find there were no refunds for consumers. It was enough, given the double-digit inflation of the times, that hospital days had diminished, and health care costs stabilized.

A case—in my opinion, a spurious one—was accordingly made for health care management. In fact, and with certain not very notable exceptions to be discussed later, health care "management" had very little to do with the industry's success. Hospital costs were excessive by any measure, nor was there any particular "demand" for hospitalization. Most people regarded it as an unpleasant necessity; the choice of hospital, the period of their hospitalization, and the treatment they received there, they left to their physician. It was not until recently, when it seemed cost restraints were interfering with their care, that they insisted upon some say in the matter. In short, proponents of change were able to exploit a pre-existing, if rather informal, consensus. Public confrontation was largely avoided.

This is not to say the task was easy. Far from it. Hospitals are political institutions. Their interests, and the interests of their many constituents—not just their patients, but their employees and, in many cases, their sponsoring religious orders—are woven into the fabric of the communities in which they are located. Hospitals matter. They employ thousands of people. When they close, jobs are lost. When they merge, (as many of them did), restructure, or, as in most cases, simply become lean, lives are affected. Practice patterns also change. And beneath the predictable chaos of change, hospital policies change as well. The "bottom line" now must be consulted on every decision. People are passed between and discharged from hospitals with such alarming alacrity that care may be affected. Finally, toward the end of 1987, (and in some cases, long before that), people cried, "Enough!" Nearly all the excess capacity that had once existed in the industry had been wrung out. It had come time to look elsewhere for savings.

Unfortunately, while hospital costs were going down, medical costs had been going up. In 1987, non-hospital utilization was the second highest in the country. The Minnesota mean was 9.1 visits (including physician encounters) per HMO member; the highest (Arkansas), was 11. The national mean was 7.4. It is worth noting that, although the greatest number of HMO enrollees were still to be found in California, the greatest penetration of the market, 27.9 percent, was in Minnesota, in 1986. It was apparent that management—medical management, that is—had failed to stem the tide of demand. There were some successes. "Group," and "staff model" HMOs, because they exerted greater control over access to specialists, and (in the case of the latter), even greater control over their physician employees, were more successful in restraining costs than free access systems. Capitation and incentive payments to encourage cost savings provided further relief; but, in the end, it was not enough. In 1987, claims liabilities for Twin Cities' HMOs exceeded revenue by nearly two percent. To the newspapers, (and an increasingly perplexed man on the street) the industry appeared poised on the verge of bankruptcy.

Back home, in the many glass and steel fortresses they had erected around town, health care managers took some comfort in the knowledge that things weren't quite as bad as they seemed. Most had reserves; most, with the exception of Group Health, spent those revenues in 1987. The problem wasn't their fault; it was the fault of providers, who had failed to effectively manage the "risk" they had accepted along with the prospect of pocketing the economies everyone knew existed. Admittedly, there was a continuing problem with demand. Still, in the best of all possible worlds, demand ought to be susceptible to aggressive and effective management. And yet, when they tried to do just that, they had only limited success; or worse, they succeeded—only to raise questions of quality. In addition, physicians—who had seen their incomes erode, their autonomy compromised, and their integrity questioned by a public understandably suspicious of the economic motives behind their care—refused to stay down on the farm. They questioned everything; but what they questioned most was the competence of the managers. They also suggested—quite correctly, as it turned out—that the real problem was demand, and that no amount of management, good or otherwise, could cure it.


ROB LEVINE

At least a few managers agreed with that view. Unfortunately, the dispute by then had boiled over into open revolt. Revolt became war. Peace was ultimately declared by government and the courts, but not before considerable damage was done to the credibility of everyone involved, and not before the problem had grown much worse. By the end of 1987, the question was not so much whether the industry would go broke, but whether it had any reason to exist. The question was not whether doctors would be paid fairly for their services, but whether health care of any sort could be afforded by the consumer. (I am speaking here of employers and government, the real parties in interest where the cost of health care is concerned.) By the end of 1987, it was apparent that the industry's failure to deal with the root problem in health care management—the problem of escalating demand—was going to price it out of the market. Only government, the funder of last resort, had the ability to absorb such losses, and it, too, was threatening to pull the plug.

This, in the view of insiders and outsiders alike, was a real crisis. Government sponsorship of health care is often taken to mean inferior care; it succeeds only when it fails. That is—or so the theory goes—government-sponsored health care is so bureaucractic, so exasperatingly inefficient, that it drives down demand. It discourages and suppresses innovation. It procrastinates when it should act; it interferes when it attempts to facilitate. It succeeds because it makes the consumption of health care services undesirable. It deals, in other words, with the root problem: demand. And, by the end of 1987, it seemed nothing else could—or would. By the end of 1988, the industry's credibility, integrity, and viability were all at issue.

Having declared economic and virtual war on each other, managers and physicians now felt free to blame each other for perceived losses in quality. The dispute tended to obscure the real issue: health care managers, having little ability to manage the delivery of health care services directly, had shifted the burden of management onto the shoulders of their "providers," who were ill-prepared by inclination, education, or experience to deal with it. It was a painful shock, indeed, for some providers to discover themselves in the position of having not only to defend health care management, (as well as their own management of specific cases), but defend its "consumer-unfriendly" economics as well. They were implicated, by position and self-interest, on the side of the managers. They could no longer lay the blame elsewhere. They had become part of the problem; and—although it may have been slim consolation at the time—a very necessary part of the solution. Unfortunately, both they and the industry moved almost immediately to deny it.

In one important respect, both managers and physicians succeeded beyond their wildest dreams; they made everyone concerned with health care—which is to say, all of us—concerned about cost. Unfortunately, this concern quickly found expression as a concern for quality. To this day, there remains an unspoken belief in consumers' minds that they are getting less care than they need; or, at least, inferior care. Such perceptions persist because the industry (a term which should hereafter be understood to include physicians) has failed to convince consumers that cost-effective care is not only adequate; it may, in some cases, actually be better. In short, the public is reasonably suspicious of the economic motives of everyone concerned; they realize, quite accurately, that such motives, if they are not primary, are at least significant, and that there is no consensus to support the view that less care is better, or even equal, care. And yet, for all the contempt now being lavished on the industry for its preoccupation with mere cost, it was precisely because of the perceived lack of such a concern that society deemed its creation so very necessary. The industry is not out; it is merely temporarily down.

**We live in a society that believes in medicine. There is hardly a man or woman alive who does not believe in a cure. AIDS aside, and wherever there is hope, there is a prejudice against doing nothing.**

Nor are doctors—however aggressive they may be in "demarketing" HMOs (a practice that does as much harm to their reputation for disinterested integrity as it does to the HMOs they detest)—entirely to blame for this phenomenon. It's not just that doctors resisted health care managers' rather clumsy attempts to manage medical care. It is simply that there was insufficient consensus on what needed to be managed, how it was to be managed, (consistent with good medical practice, whatever that was) or even who was to do it. In short, the industry found itself in the paradoxical position of having "proved itself," while convincingly demonstrating it had no business whatsoever claiming to have solved the basic problem—demand. It had become a prisoner of its own success.

The concept of medical management presumes a consensus. It presumes that a physician, presented, (as the jargon goes), with certain symptoms, and having at his disposal certain treatment options, will select one, more than one, or none. In the usual case, and assuming the patient's informed consent, the option chosen is the one most likely to lead to clinical improvement. For reasons discussed below, the option of doing nothing is seldom selected. In truth, and while there is a great deal of agreement on the proper indications for treatment, and even on the likely result of such treatment, there is virtually no agreement whatsoever on which treatment (or no treatment) is more likely to make the patient "feel better." I am not speaking of clinical improvement. I am not speaking only of a lessening of symptoms. I am talking about a real improvement in the patient's quality of life. He not only *is* better, he *feels* better. He is happier. Most people would say this is beyond the province of medicine. I don't know whether it is or not. I do know health care management is impossible without it.

We live in a society that believes in medicine. There is hardly a man or woman alive who does not believe in a cure. AIDS aside, and wherever there is hope, there is a prejudice against doing nothing. How many patients are prepared to walk away from their doctor's office without something, usually a prescription, to show for it? Any physician who dares not to treat, on the grounds that the patient would be better off without it, risks litigation. Why? Because there is no *legal excuse for omissions.* There are excuses for errors of commission: the patient consented; an attempted procedure, though potentially dangerous, was a last hope. The public and physicians are biased in favor of doing something, even if it is unlikely to work. A doctor who does nothing takes a big risk. A doctor who does less is still taking a risk. In my opinion, a doctor who does less, in response to an economic incentive, not only takes the risk of litigation for malpractice, but the additional risk of being assessed punitive damages as well. It is precisely because health care providers are expected to do something that they feel obliged to do more, not less.

Let us suppose a doctor does nothing—or, to make the argument more difficult, merely does less. We shall assume of course that it is done solely for the good of the patient. Suppose, in short, an attempt at real medical management is made. Where are the data to support such a deviation? They do not exist. There are data to show treatment A works better than treatment B; there are even, in the case of some procedures, "standards of treatment." But there is nothing to show which is best; there are no such data, because there is no general definition of "best." And there certainly are no data to indicate less is better. A physician's experience will no doubt be of assistance here. But how many physicians are prepared to go it alone? How many are prepared to adopt a treatment procedure in a particular case, knowing it is both different from and less than that usually given in such cases, on the vague hope it is likely to make the patient "feel better?"

I am not trying to argue that such, obviously very subjective, measures of success should displace more objective ones. And I certainly do not intend to suggest that improvements in clinical status should not be stressed; clinical improvement must remain the bedrock of good, effective medicine. It is not, however, the sole criterion of success. A patient's symptoms may improve without treatment; they may get worse. A patient's symptoms may disappear under treatment; they may not. They may get slightly better, or slightly worse. Anything is possible, and the wise doctor will prepare the patient for every reasonably predictable eventuality. For the patient, however, the primary criterion of success will remain how he or she "feels." Has the quality of his or her life been improved?

But where are the data for that? And how are they going to be collected? Will they be valid; will they be reliable—or even very useful? And, even supposing we can answer these questions, what impact are treatment choices made by patients themselves, (with, of course, the advice and assistance of their doctors) on the basis of probable impact on "quality of life," likely to have on the cost of health care in this country?

The data are where they have always been: in the mind—and often the mouth—of the health care consumer. The problem has been how to extract them, and second, how to distill and reproduce them in a more or less useful form. The problems of comparability, reliability, and even validity are critical; but so, given the dimensions of the undertaking, is the problem of resources. Who can—or will—pay for it? The nature of the data themselves—not a collection of facts, but a hodgepodge of opinion—is also daunting. I am not here to announce that these problems have all been solved. They have not. On the other hand, significant progress has been made; and, even if it had not, we would still be contemplating the creation of a national health care "outcomes" database. We would be contemplating it, because it is simply an idea whose time has come. It is proof of our *bona fides* as managers and physicians; it is our best, and last, hope for restraining health care costs. It is, finally, the natural and inevitable result of the breakdown of the traditional doctor-patient relationship, and the interposition (in its place) of the concept of consumer's rights.

There are those who would question whether the patient is capable of making such a choice. The question is inapposite. It is true that the choice, having been made on partly subjective grounds, and upon the assumption that whatever the prospects for clinical improvement may be, it is "best" for the person making the decision, may seem to be the "wrong" choice on objective grounds. But for the patient, assuming there was sufficient information on which to base such a choice, it would be the "right" choice. It would be right, because it was intelligent (based on adequate information, seasonably provided) and voluntary (done without undue influence, even if that influence is disinterested, and based upon superior knowledge and experience). It would dispel suspicion, because it was the patient's free choice, and, therefore, less susceptible to second-guessing about motives. Competition—real competition, based upon the measured outcomes of medical interventions in similar cases—would reenter the picture.

The practices of some doctors would suffer in such an environment. Others would prosper. Nor would it be only those who could demonstrate clinical success, or only specialists in large group practices. Success would depend upon many factors, one of which would necessarily be a physician's compassion. Success would, ultimately, be a matter of opinion, based upon data collected from both physicians and patients, in millions of encounters; it would, in any case, be a patient's definition of success.

There is another question: What reason do we have for believing that the health-care-consuming public would choose less expensive modes of treatment? If the decision were made solely on the basis of cost, the answer is clear: none. For want of better information, the health care consumer tends to equate cost with quality. More complete data, especially data tending to indicate which mode of treatment is likely to make him or her feel better, will change that. Why? Because given a choice—a real choice, in terms he or she can understand—the health care consumer is inherently conservative. What I mean is this: he or she will generally choose those modes of treatment that are the least painful, and the least invasive. It is only because there is nothing to validate his or her belief that more invasive procedures may not be worth the effort, that the health care consumer stubbornly persists in undergoing arguably unnecessary bypass operations—to choose a currently fashionable example. Less invasive procedures *tend* to be the least expensive.

As has already been pointed out, most people would prefer to avoid hospitalization. They prefer to avoid discomfort. In the future, before they submit to more invasive procedures, they must be convinced the proposed treatment will make them "feel better." Life expectancy will be an important, but by no means conclusive, factor. Peace of mind and relief from pain and other discomfort will remain significant. But, in the brave new world of medicine now opening before us, they will have to be convinced the proposed treatment is worth the discomfort—that, in the end, they will not only experience symptomatic relief, but actually be better. The role of the physician will be to advise on the prospects for clinical improvement, and, of at least equal importance, to help the patient weigh the many other imponderables that must figure in such a decision. In short, physicians can expect to continue to play their traditional role as patient advocate and adviser. The existence of data from millions of similar encounters, indicating the probable outcome of treatment, will make the process more complicated, but not necessarily more difficult. It will be a difference in degree, not in kind.

We will have a national health care outcomes database comparing the results of treatment, including improvements in quality of life as well as clinical status, or we will have to abandon privately funded health care in this country. We will have it because we must. Because nothing else will reduce the cost of health care. We will have it, because nothing else has worked.

And physicians must—I repeat—*must* become involved in its creation. The development of a national health care outcomes database will be difficult at best; if physicians fail to participate, it may be impossible. The altruistic motives peculiar to the profession can best be exercised for the improvement of medicine—and the economic survival of the health care industry—without conflict here. It is not merely time for a change. The change is at hand. It is not merely time for better management of the health care dollar; it is time for the industry to get out of the direct management of health care altogether. It is time for the health-care-consuming public to manage its own care.

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*George T. Morrow, II, is an attorney and the former president and chief executive officer of Physicians Health Plan. The arguments and conclusions contained in this article are Morrow's alone.*

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# Consequences of Competition

*Paul J. Brat, M.D.*

The topic of competition in medicine is not a new one, for there has always been competition in health care. Medical students compete to get into medical school, compete for residency and training opportunities, and then, after school, compete for patients and business while setting up their practices. Hospitals have historically competed for the best and busiest physicians to be on their staff, and also compete for programs, equipment, and stature. Competition in health care services and medicine has been with us always, although the intensity and scope of that competition has definitely increased during the past 10 years.

It is important to remember, I believe, that competition, in itself, is neither positive nor negative. Competition is "the effort of two or more parties to secure the business of a third party by the offer of the most favorable terms." These terms could include factors such as more benefits, better access, more service, friendlier service, lower prices, or higher quality. Consumers win in a competitive society, because if one provider of services falls down on the job, another provider exists to serve that consumer. A competitive environment encourages providers of services to do their best and *be* the best.

I believe the competition we are witnessing is a natural stage of development in health care. Marketing experts tell us that there are two natural stages of evolution in any market. First, the production and manufacturing stage. In health care, this means the training and licensing of physicians and the development of clinics, hospitals and programs of care. This stage has always been shaped by physicians and other providers.

We are now in the second stage of market evolution—the service economy. The *quality* and scope of the services is becoming the basis of gaining and retaining consumers, or, in the case of health care, patients. This evolution happens in all markets, not just health

care.

Therefore, competition is a natural outcome when two or more providers, networks, or organizations seek to attract business or patients in the service economy market stage. It is what we do to shape and respond to competition that should be the focus of meaningful discussions.

As a physician who spent 10 years in private practice, and has now spent 10 years both practicing and managing in a prepaid, group medical practice, I would like to offer some observations on the results, or "consequences" of this competition in medicine.

► Increased consumer clout. Changes comes about in any industry when there is an unmet need. I believe we saw evidence of consumers moving to fill a need when they formed the consumer-sponsored, prepaid health plans, as early as 1930, and through the 50s, 60s, and 70s. The early consumer-sponsored plans, such as Group Health, Inc., founded in 1957, were the result of consumers joining with physicians to provide more comprehensive coverage, for a more affordable, predictable price—an option that they felt was missing from the marketplace. The trend toward patient/consumer involvement has continued, and today there is consumer representation on almost all boards of major health care plans. Some, such as Group Health, are totally member owned and governed.

As a result, as an officer and physician working in a consumer-owned organization, I find that I make decisions with our members and patients uppermost in my mind. Responding to consumers has caused changes in the way we deliver care. For example, competition has encouraged us to provide more after-hours care at local clinics and urgent care centers, instead of forcing patients to hospital emergency rooms. Other services developed as a response to consumer needs are answering services staffed by trained nurses, more patient education classes and literature, home care services, and broader use of home therapies.

► Increased emphasis and focus on quality and value. Consumers are not the only group to become more involved in health care. Employers, spurred by the rising costs of care, have also become very involved in selecting the health care plans for their employees. And, since Americans now spend an average of almost $2,000 a person for health care each year, we should not be surprised that employers are looking more closely at the quality, cost, and value of the health coverage and care they select. They are demanding documentation of the quality and value they receive for their dollars. Since this is a relatively new role for employers, it is not always an easy, or even an accurate process. The issue or data reporting, quality reviews, and documentation raises questions about who should do reviews, how the information will be used, and whether or not it will be useful. But the fact that employers are becoming more involved in making these decisions may be a positive trend. I believe the result will be better health care and services for patients, because the process of documenting treatments and results will add to physicians' knowledge base, and will provide valuable information to our profession in the future.

**Competition, in itself, is neither positive nor negative. A competitive environment encourages providers of services to do their best and *be* the best.**

At Group Health, for example, competition has encouraged us to develop a 10-point quality assurance program in writing, and share it widely with our staff, members, and client groups who select us to serve their employees. I think it is good that competition calls on us to publish this program, commit to it publicly, and demonstrate that we are providing care that meets or exceeds community standards. Historically, the focus on cost containment may have come first, during the early days of health care competition, but I believe we have appropriately evolved to the point where the focus of competition is now on *quality*. I believe we would not have come so far so fast without the pressures of competition.

► Competition has forced innovation in the medical system. Competition did not come about because there was a belief that there was anything inherently bad about what was happening in health care. Rather, competition began, as in any industry, because of a belief that there were innovations and improvements just waiting to be made. Competition has forced the American medical system to look at new ways of delivering care that both decrease costs and increase quality. For example, instead of overnight, or even over-the-weekend, admissions for surgery, the norm is now for same-day admission for surgery. More procedures are now done in the physician's office, with the same, or better results. This is less costly and also decreases the stress to patients, who don't have to check into a hospital for minor procedures.

► Increasing trend toward group practice. The need to join together to share experience and costs, and strengthen negotiating abilities, has led many physicians to form group practices of various sizes, versus solo practices.

I believe there are many advantages to a group practice, both for physicians and patients. There are advantages in terms of both efficiency and quality. Some advantages for physicians are: sharing of knowledge and responsibility; high standards resulting from the interchange of ideas; money and time for training and study; relief from the business side of medicine; and availability of ancillary services and trained personnel on hand to help provide patient care.

Patients also benefit from using a group practice, because they have a broader network of physicians, including specialists, available for their care. In large group practices, such as Group Health, the Mayo Clinic, and the Park Nicollet Medical Center, patients also benefit from using well-equipped clinical facilities, with X-ray, pharmacy, optical services, and certified laboratories available right at the clinic.

► More appropriate medical care delivery. Competition and the focus it places on the delivery of care has also increased attention on the *appropriateness* of care. I believe this is a good trend in medical care, as long as high standards of professionalism and a high standard of quality are used as the yardsticks.

It is critical to remember that change will and *should* occur in treatment modalities. For example, when I was a resident in the 1960s, the standard hospital stay for someone with an uncomplicated myocardial infarction was 21 days. Now, the medical literature indicates that seven days is adequate in most cases, and a recent *New England Journal of Medicine* article suggests that even fewer days may be appropriate in selected cases.

Because of better technology and better support systems, such as home care, improved monitoring, more effective treatments, and better surgical techniques, shortened hospital stays are not only less costly, but the results are better for the patient, since the risk of certain complications, such as thrombophlebitis, is reduced.

Competition has spurred us to use our medical knowledge to develop these new approaches and solutions.

► Physician education and training has broadened. Physicians, in most areas, can no longer expect to graduate from medical school, announce their presence, and begin seeing patients. Establishing a practice was never easy, but now it is more complicated than before, because both physicians and patients are often members of some type of delivery system and must "match up" to work together.

In the Twin Cities, approximately 95 percent of practicing physicians are part of one or more managed health care plans and derive all or a certain percentage of their patients from these affiliations. This means that physicians needs to be savvy in deciding who they will work with, and in evaluating their agreements with health plans.

Traditionally, physicians were not trained to make decisions about what plan offered what advantages, or to evaluate one network against another. Now, however, we see physicians gettings their MBAs, or just learning more about management, financial issues, marketing, and other areas. It is a reality that the economics of health care call on us to become familiar with a broad set of issues. While this may not be a focus every physician may want to develop, a group of physician managers who understand both the medical and business sides of health care should serve our profession well in the future. We will have a better-trained, better-informed group of physician leaders as a consequence of competition.

**Competition began, as in any industry, because of a belief that there were innovations and improvements just waiting to be made. Competition has forced the American medical system to look at new ways of delivering care that both decrease costs and increase quality.**

► Increased attention on preventive care and services. One of the goals of the pioneers of HMOs was to provide and cover preventive care services, and encourage people to go to their doctor to help them stay well, not just when they were ill.

Health education and patient involvement with their care were also principles of the early managed care plans. Patients responded favorably to these approaches and showed their support when they joined plans that offered these benefits.

Preventive services and screenings, such as mammography screenings, immunizations, and annual physicals, have long been 100 percent covered by HMOs. Now, legislation has been passed to require all insurance companies in Minnesota to pay for these preventive tests. This will encourage more members to seek early medical evaluation and care.

An example of quality preventive care is Group Health's Preterm Birth Program. Through testing, medical intervention, and patient education, we have been able to reduce the incidence of premature birth in our population by 22 percent. Our rate is almost one-half lower than the state average.

Programs such as this, which encourage patients to work with their physicians to identify and treat disorders at an early stage, are positive outcomes of both change and competition.

I appreciate this opportunity to share my thoughts on competition in health care. As I stated earlier, I believe that competition in health care has always been with us, and I believe it is a natural consequence of the developments in health care.

As physicians, we can choose to look at change and competition as a negative development or as a positive opportunity. Our profession attracts bright, talented, and caring individuals. We have the ability to respond positively to competition and create changes that will correct problems in health care, enhance our profession, and benefit our patients.

Since we are still in an evolving phase of competition, there are outcomes that appear negative. I readily acknowledge that issues such as shortsighted review systems, arbitrary cost-cutting approaches, and increased paperwork and documentation are not positive results of competition.

But I also believe we need to remind ourselves to look a little further into our futures. We are involved in laying the groundwork for many improvements, both in clinical practice and in the delivery of health care. We have an opportunity to be seen not as change-resistant professionals, refusing to respond to the needs of the people who come to us and pay us for our services, but as leaders of change, willing to measure up to any standard of care and value developed.

We have an opportunity to set the standards of competition for medicine, now and in the future.

I have tried to outline the results of competition I've observed that are already moving in the right direction. Our patients have benefitted from competition, and I believe our profession has as well. I look forward to being a part of more improvements in the future.

*Paul J. Brat is the Medical Director of Group Health, Inc.*

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# The Role of Values in Cost Containment

*Reinhard Priester, J.D.*

During the past two decades, rising health care expenditures sparked a variety of cost containment initiatives by the federal government (often in conjunction with the states)—particularly along the lines of planning, regulation, and other governmental controls. More recently, federal and state cost containment initiatives have paralleled those of the corporate sector and sought to promote a more competitive, market-oriented health care system. Although both approaches caused major changes in the organization, delivery, and financing of health care, neither has had a significant impact on health cost increases. Health care expenditures have continued to rise: from $58.2 billion (7.1 percent of the gross national product) in 1968, to $189.7 (8.7 percent) in 1978, and to an estimated $550 billion (11.5 percent) in 1988.[1] As far as reducing health care costs, or even slowing their rate of increase, these cost containment initiatives have in general been a failure.[2]

Health care expenditures are projected to rise even further, to $1,529 billion (15 percent of the GNP) by the year 2000.[3] These relentless increases, past and projected, are due to diverse economic, technological, cultural, and demographic factors, including advances in medical technology, the aging of the population, the public's high expectations of the health care system, and the unprecedented challenges posed by the AIDS epidemic. As these factors continue to push our health care system beyond our ability and willingness to pay for it, government and employers—as the major health care payers—are likely to redouble their efforts to control health care expenditures. New, perhaps more aggressive, cost containment initiatives will no doubt become permanent features of our health care system.

The evaluation of cost containment initiatives, however, cannot rest solely on their success or failure to control costs. Such initiatives also directly affect the values of the health care system. Prepaid health care plans, DRGs, capitation, the shift to ambulatory care, utilization review, preadmission certification, and other elements of managed care plans all have considerable impact on important values of the health care system. Four of the core values are access to health care, the quality of care provided, autonomy in choosing health care providers and making health care decisions, and provider autonomy and their ability to act as patient advocates.

Access, quality, autonomy, and advocacy, those values at the heart of our traditional health care ethic, provide the standards against which we must evaluate to control health care costs. Whether framed in terms of a right to health care, a societal obligation to provide care, or as a matter of charity, our society has been committed to expanding access to health care to all Americans. Programs such as Medicare and Medicaid sought to make comprehensive care more available and obtainable; similarly, physicians and other health care providers have a long tradition of providing care for the poor and disadvantaged. We have also been committed to providing quality care, despite the lack of consensus on how to define, measure, and assure quality. Patient autonomy in terms of a patient's right to control what is done to his or her body, has emerged during the past 30 years to become a key value of the physician/patient relationship. Finally, physician autonomy (i.e., physician control over the practice of medicine and professional authority for treatment decisions) and advocacy (i.e., physicians' undivided fidelity to promote their patients' best interests) have been the dominant values of physicians throughout this century. Cost containment initiatives must be evaluated in terms of their impact on these four values as well as their economic consequences.

Recent changes in the organization, delivery, and financing of health care have had, perhaps, the most profound impact on the autonomy of physicians and their role as patient advocates. For instance, prospective payment and managed care plans (especially utilization review and preadmission certification requirements) restrict the autonomy of both physicians and patients in making medical treatment decisions. With increasing frequency, outside individuals and organizations are exerting influence, subtle as well as overt, over decisions that used to be made by physicians and their patients. Physicians must now justify to hospital and clinic administrators, or third-party reviewers, treatment decisions that fall outside established guidelines or standards. Such review, some say second-guessing, constricts autonomous decision making within the physician/patient relationship.

Cost containment efforts also infringe on physicians' advocacy role. Their traditional professional ethic was to single-mindedly pursue their patients' individual best interests, regardless of cost. As forcefully stated by Levinsky, "Physicians are required to do everything that they believe may benefit each patient without regard to costs or other societal considerations. In caring for an individual patient, the physician must act solely as that patient's advocate against the apparent interests of society as a whole."[4] This view of the physician's role as patient advocate was reinforced by the retrospective, fee-for-service payment system.

The shifting economic incentives in the contemporary health care system present a potential conflict with the physician's ethical duty of fidelity to the individual patient.[5] Prepaid plans and other new arrangements frequently place the physician "under constraints of self-interest to restrict the use of medical services."[6] For example, physicians are expected to hospitalize patients in accordance with the DRG program's guidelines or, under an example of more overt pressure, are financially rewarded or penalized by health maintenance organizations (HMOs), independent practice organizations (IPAs), or other prepaid plans for deviating from prescribed levels of care.

In addition to altering the physician's own interests in treatment decisions, cost containment initiatives modify the physician's role from sole agent of the patient's welfare to a role of balancing the patient's wants and needs against broader societal interests. Physicians are being asked, in effect, to bear responsibility for lowering the cost of medical care. Many view this as a direct threat to physicians' traditional fidelity to their patients.

The various efforts to control health care expenditures during the past 20 years have presented important challenges to the values of our traditional health care system. Clearly, because they raise ethical problems as well, cost containment initiatives cannot be judged on their economic consequences alone. As we continue our efforts to control health care expenditures, we must develop new cost containment initiatives with an eye on their impact on values and cost.

**Physicians are being asked, in effect, to bear responsibility for lowering the cost of medical care. Many view this as a direct threat to physicians' traditional fidelity to their patients.**

But, we cannot focus only on the values of our traditional health care ethic, for that would merely and uncritically promote old values, i.e., those that have served the health care system in the past. Whether future cost containment initiatives should be guided by the values of quality, access, autonomy, and advocacy needs to be examined. Do these values still apply to today's health care environment—despite the existence of new financial incentives, new health care delivery systems, and the myriad other changes? Do we instead need a new ethic for the new health care environment?

The challenge of cost containment is to control health care expenditures and to support and promote desired values. Therefore, in developing new cost containment initiatives, we must first reinvestigate and reevaluate the core values of our health care system. We must ask, for example, whether autonomy and advocacy should continue to be values for today's health care system. Should only physicians and their patients make treatment decisions, or should such decisions be subject to review or question by the payer or other outside party? Should physicians continue to zealously advocate their patients' individual best interests? Or should physicians, when treating individual patients,

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Soldier being examined for effects of high-altitude cerebral edema.

ALLAN J. HAMILTON, M.D.

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"The work I'm doing in the Army Reserve fits perfectly with my academic research interests in civilian life. The Army is very concerned with the effects of high-altitude cerebral edema, which is a mirror model of cerebral hypoxia, something I deal with every day in our neurosurgical intensive care unit. I couldn't ask for a smoother transition. And that's true for a lot of Reserve physicians. All we really do is change our clothes, not our mindset.

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**Warnings:** CECLOR SHOULD BE ADMINISTERED CAUTIOUSLY TO PENICILLIN-SENSITIVE PATIENTS. PENICILLINS AND CEPHALOSPORINS SHOW PARTIAL CROSS-ALLERGENICITY. POSSIBLE REACTIONS INCLUDE ANAPHYLAXIS.

Administer cautiously to allergic patients.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics. It must be considered in differential diagnosis of antibiotic-associated diarrhea. Colon flora is altered by broad-spectrum antibiotic treatment, possibly resulting in antibiotic-associated colitis.

**Precautions:**
- Discontinue Ceclor in the event of allergic reactions to it.
- Prolonged use may result in overgrowth of nonsusceptible organisms.
- Positive direct Coombs' tests have been reported during treatment with cephalosporins.
- Ceclor should be administered with caution in the presence of markedly impaired renal function. Although dosage adjustments in moderate to severe renal impairment are usually not required, careful clinical observation and laboratory studies should be made.
- Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.
- Safety and effectiveness have not been determined in pregnancy, lactation, and infants less than one month old. Ceclor penetrates mother's milk. Exercise caution in prescribing for these patients.

**Adverse Reactions:** (percentage of patients)

Therapy-related adverse reactions are uncommon. Those reported include:
- Gastrointestinal (mostly diarrhea): 2.5%.
- Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment.
- Hypersensitivity reactions (including morbilliform eruptions, pruritus, urticaria, and serum-sickness-like reactions that have included erythema multiforme [rarely, Stevens-Johnson syndrome] and toxic epidermal necrolysis or the above skin manifestations accompanied by arthritis/arthralgia, and frequently, fever): 1.5%, usually subside within a few days after cessation of therapy. Serum-sickness-like reactions have been reported more frequently in children than in adults and have usually occurred during or following a second course of therapy with Ceclor. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.
- Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.
- As with some penicillins and some other cephalosporins, transient hepatitis and cholestatic jaundice have been reported rarely.
- Rarely, reversible hyperactivity, nervousness, insomnia, confusion, hypertonia, dizziness, and somnolence have been reported.
- Other: eosinophilia, 2%, genital pruritus or vaginitis, less than 1%, and, rarely, thrombocytopenia.

Abnormalities in laboratory results of uncertain etiology
- Slight elevations in hepatic enzymes
- Transient fluctuations in leukocyte count (especially in infants and children).
- Abnormal urinalysis; elevations in BUN or serum creatinine.
- Positive direct Coombs' test.
- False-positive tests for urinary glucose with Benedict's or Fehling's solution and Clinitest® tablets but not with Tes-Tape® (glucose enzymatic test strip, Lilly). [061088L]

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adopt a broader perspective and consider also the interests of the community? Should physicians simultaneously be both patient advocates and society's agents in controlling health care expenditures?

Cost containment and the values underlying our health care system are inextricably linked. To evaluate cost containment initiatives, we must assess their economic consequences, but we cannot ignore their impact on values. Similarly, in developing new cost containment initiatives, we must analyze their potential impact on both costs and values. But we cannot uncritically accept the old values of our health care system: we also must ask the tough questions of whether the old values are still appropriate. Because of recent dramatic changes in the organization, delivery, and financing of health care, do we need to add to, delete from, or modify the values of access, quality, autonomy, and advocacy? In developing future initiatives to control health care expenditures, therefore, we must first reinvestigate and reevaluate the old values of the health care system and specify the values appropriate to our contemporary health care system.

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# Physicians on

Peter J. Kizilos

Some Minnesota physicians are dropping out of the race as the competition heats up.

Minnesota, a state with a long tradition of medical excellence, may be chasing its doctors away. More and more are complaining about the health care climate's hostility to physician concerns, and their inability to remedy matters. A majority may tolerate the frustrations of Minnesota's changing medical climate, but others won't gamble with their careers, waiting for their needs to be met. They're packing their bags and heading for greener practices.

Extensive state regulation, and health maintenance organization (HMO) domination of the health care delivery system—in a state on the leading edge of the HMO movement—are eroding physicians' professional autonomy and status; and, for many, have made practicing medicine a very risky business.

Kent Wilson, M.D., chairman of the Minnesota Medical Association's (MMA) Ad Hoc Committee on Competition in Medicine, can list a half dozen reasons why Minnesota physicians are leaving the state. For two and one-half years his committee has been studying Minnesota's competitive health care environment. The group sought the source of grumbling in the ranks through a survey of physician attitudes that was done about a year ago (see "Competitive Medicine: A Survey of Minnesota Physicians;" *Minnesota Medicine*, January 1988).

"We documented the level of discontent—that is the level to which physicians felt that the quality of their professional lives had deteriorated or become uncomfortable," Wilson said.

One of the most startling of the survey's findings was doctors' declining level of job satisfacion. Seventy-six

# the Run

percent of those responding across the state said they enjoy practicing medicine less now than they did five years ago. Among the main reasons cited were the increasing burdens of paperwork and administration that take time away from patient care, less decision-making autonomy, and the difficulty of dealing with the contractual nature of medical delivery in Minnesota in 1988. When you add in poor financial rewards, it's no wonder many doctors are bolting the state, Wilson said.

"I'm aware of three physicians in family practice who just got up one morning and said, 'This is nuts. We're working too hard and we're assuming a great deal of risk. We have no control of the risk, essentially, and have a busy practice here, but we're not improving our circumstances, and the prospect isn't great for doing so,' " Wilson said. "So they're going to go off and become administrators or emergency room doctors or something like that."

A related problem that doesn't get enough attention, according to Wilson, is the hard time Minnesota doctors have recruiting others to come here. "I know of a cardiac surgery group who auditioned seven doctors and asked each to join them, but none would. They said they felt there wasn't a long-term future here." Unless that perception changes, it could spell trouble in the years ahead.

None of the four doctors we contacted had any serious regrets about leaving the state. To a man, they tout Minnesota as a peach of a state in which to live. But when it came to practicing medicine here, they were equally united in saying, "Thanks, but no thanks."

*continued*

## *Raymond Marecek, M.D.*

Marecek spent 12 years practicing internal medicine and endocrinology in Minneapolis, from 1975-1987, before starting over in Little Rock, Arkansas—the town in which he grew up and attended medical school. Even though he was familiar with the city's medical community, making the move wasn't easy. By the time he left Minneapolis, he'd served close to 1,000 patients, hundreds of whom sent cards and letters thanking him for service rendered over the years.

Marecek's reasons for moving were both personal and financial. His father had health problems and nearly died several times, and he felt obligated to return and help out however he could.

Professional dissatisfaction, however, was the big reason for the change of venue; Marecek said he was quite unhappy with the Twin Cities' health care climate. One detects a note of rancor in his voice when he talks about the HMOs and their increasing dominance over health care here.

The problems didn't spring up overnight, either. Marecek said the business end of his practice took ever more time to manage in the years before he left, and caused him bigger and bigger headaches. "Instead of thinking about my patients and their problems, I found myself thinking every day and every night about what corporate strategy PHP was going to foist upon me in order to control costs," he recalled.

The structure of PHP provided an incentive not to treat patients, according to Marecek—a situation he found ethically repugnant. If the ethical and financial problems had been limited to a few patients, he said the situation might have been manageable. But the number of patients in his practice subscribing to PHP increased rapidly during the last five years. From 1978 to 1983 it was only about 20 percent, an amount Marecek considered manageable. But by 1986 it had grown to 50 percent, while the HMO reimbursed only 65 percent of his charges, and his office overhead hovered at 55 percent.

"It became a losing proposition for me to see PHP patients, even though most of the patients trusted me to be their advocate and felt that I should see them whenever the need arose," Marecek said. "I felt that I couldn't afford to see the PHP patients from a business standpoint because it was just like charity service. But from an ethical view I couldn't refuse to see them. So I was in an untenable situation—between a rock and a hard place."

**"The best and the brightest kind of people like to have some autonomy—to push back the limits and be innovative—but there just isn't any room for that in medicine now."**

If practicing medicine in the Twin Cities had ever been a dream, the dream was rapidly losing its luster. Marecek said he was powerless to check the erosion of his professional status, or the loss of autonomy to make patient care decisions. Larger economic forces were in control.

"Medicine had become a regulated and manipulated industry, and not a profession," Marecek said.

The term "health maintenance organization" is a misnomer, according to Marecek. He said it veils the true purpose of these organizations—which is reducing cost, not promoting health. He has even coined a new term that he thinks more accurately reflects their real agenda.

"All of these plans were initiated first and foremost to control health care costs. They are plans that fix costs, and should be called such. Health maintenance never has been, nor ever will be, the hallmark of these plans," he said. "I think they should be called FCOs—for Fixed Cost Organizations—not HMOs."

The story of Marecek's involvement with PHP is similar to those told by other doctors. And it goes a long way toward explaining why doctors like Marecek don't think there's much point in sticking it out in Minnesota. When he originally signed up with PHP, for example, he and many other doctors took the organization at its word that patients could see as many different physicians, as many times, for as many opinions, as they wished—just as the butterfly logo implied. But, Marecek said, PHP didn't hold up its end of the bargain.

"When we signed a contract with PHP, we were supposed to treat PHP patients the same as we did ordinary indemnity insurance patients. Now I personally think that no plan can survive with unlimited freedom for physicians and patients and still maintain fixed costs. I think the management of PHP either overtly lied to the patients and physicians or they were totally inept in their financial analysis of this plan. I don't know which is worse."

In Little Rock, Marecek doesn't have those kinds of headaches. There are very few HMOs in the South generally; he belongs to none and plans to keep it that way. While he thinks the future outlook for medicine in Minnesota is good—because the medically sophisticated populace will demand that physicians, not MBAs, make treatment decisions—it could take five years or more before things improve.

One aspect of the HMO movement that concerns him is how medicine's future direction may affect the caliber of people attracted to the profession, if in fact Minnesota does signify the health care delivery system of the future. He thinks it may get tougher to attract the best candidates into medical careers, given the amount of sacrifice demanded and the shrinking personal and financial rewards it provides.

"I think most of the young people now reading what's going on in health care—whether they're motivated financially or because they don't want someone who knows less telling them what to do—are going to want to shy away from medicine," Marecek said. He doubts people will be willing to invest 15 years getting the best education, like he did, to become "a mere tradesman, not a professional."

"The best and the brightest kind of people like to have some autonomy—to push back the limits and be innovative—but there just isn't any room for that in medicine now," Marecek said.

## *Thomas Braxton, M.D.*

After 10 years of serving patients from his St. Paul office, Minnesota native Thomas Braxton also moved south, to practice in Bradenton, Florida. Weary of fighting the state's managed health care system with little support from fellow doctors, the first nephrologist in the state to practice privately had his eyes open when opportunity knocked.

Alfonso Belsito, M.D., a former colleague and enterologist, invited Braxton to visit him in Bradenton. Braxton came away impressed, and told Belsito to call if the city ever needed a nephrologist.

In a matter of months, Belsito was on the phone, telling Braxton two of Bradenton's three nephrologists had left. To top things off, the L. W. Blake Memorial Hospital in Bradenton was starting an open heart program. They needed a nephrologist, especially one with a background in critical care such as Braxton's, to make it a success. Braxton wasn't a hard sell, although there were some personal matters to mull over.

"A decision like that's obviously a very complex one. My wife was a hospital administrator and had a medical management consulting business at the time we left. So the decision to leave involved professional and personal decisions both for her and for me," Braxton said. Yet the professional opportunities convinced both of them to move to Florida.

Braxton echoes many complaints voiced by Marecek on the down side of HMOs' effects on patient care. Because many primary care physicians had financial incentives to minimize cost, they only reluctantly referred to specialists like Braxton. As a result, Braxton said, "patients were sequestered, if you will, by the primary care physicians. Over time we saw fewer and fewer interesting diagnostic cases and more and more end-stage disease."

A lack of referrals causes further problems for specialists, making it harder to practice and stay current in their fields.

"Patients are not well served by that kind of a system," Braxton said. He also said it was frustrating to see so many patients who could have had their conditions turned around if they'd been spotted, and referred to him, earlier. Admittedly, the problem of early detection isn't unique to Minnesota. Yet HMOs have structured the system in such a way that doctors are encouraged not to err on the side of caution.

**"You have to have a lot of guts to make a move at age 40, but the opportunities are out there."**

In Florida Braxton faces a different kind of enemy to early intervention, and one just as deadly: ignorance. Many of Braxton's elderly don't seek the care they need when they need it, because, he said, "they have a kind of "que será será attitude" toward their health. Most of the people—living in the county with the highest death rate in the nation—can't afford private health insurance. So over 90 percent of Braxton's patients are on Medicare. Still, he said his financial health is better than it ever was in St. Paul.

Before making their moves, all four doctors made sure their patients would be well served when they left. Braxton was no exception. "I felt I'd brought nephrology services in St. Paul to a state-of-the-art level, and that my associates would do a good job of continuing to care for the patients I left behind."

Braxton knows it's awfully tough to pack up and start a practice all over again from scratch in a new part of the country. "You have to have a lot of guts to make a move at age 40," he said, "but the opportunities are out there."

The move was feasible, he admits, only because the hospital for which he now works agreed to pay all his moving expenses, provide loans, and help get his private practice off the ground. Most doctors aren't so lucky.

One final factor clinched Braxton's decision. He was fed up with Minnesota's nine months of winter. "We had two small children, and you talk about cabin fever! They were inside with us so much of the year. I don't miss the weather one bit."

## *Robert Connor, M.D.*

Connor, a pathologist, wasn't actively looking to leave Minnesota. But he was well on his way shortly after responding to a friend's urging to explore Austin, Texas. Even though he loved Minnesota—his wife was born and raised here—he got hooked on a position in the Lone Star city. "It was just too tempting to pass up," he said.

Why did Connor leave a perfectly good job as Director of Laboratory Services for Minneapolis-based Lufkin Laboratories? It all came down to a matter of dollars and cents.

"I left because I thought I could do better financially down here," he said. Lack of state income taxes made Texas's financials shine even brighter.

Connor said that the competitive health care environment in Minnesota forced labs like Lufkin to spend too much time and energy marketing their laboratory services and cutting costs to the bone. Although he doesn't think pressure from HMOs precluded doctors from ordering necessary tests, there was pressure to seek the lowest prices, thus threatening the quality of services the lab could provide and still stay competitive.

**"I knew an awful lot of people who were in my training program. . . who would've loved to stay in Minnesota, but. . . they just couldn't make a go of it."**

"The problem is, like everything else, you get what you pay for," Connor said. "In the lab and pathology side there's just so much you can cut. It's a very technologically demanding field. There are a lot of costs associated with producing laboratory tests and services." He also said that it was hard to maintain a quality operation with that kind of dog-eat-dog competition.

The competition in Austin is nowhere near as intense, according to Connor. "We have to be cost conscious, but it's not as cutthroat," he said. "We never feel that we have to compromise the quality of our work in order to attract business."

Currently, prepaid health plans serve only about 20 percent of Austin's population; four times that in 1984. In Minneapolis the figure has gone from roughly 40 percent to 50 percent during the same period.

His workplace in Austin, Clinical Pathology Services, was especially interested in Connor's experience running a laboratory that could compete with national laboratory chains for services. Much of what he does in Austin is similar to what he did in Minnesota, except for the greater financial rewards and extra leisure time. At Lufkin he worked long hours and could never really take an extended vacation. Now he has time for his family and hobbies like gardening and landscaping. Yet he does miss some things about his old job in Minnesota.

"The position I had at Lufkin was very challenging, sort of on the cutting edge, if not the bleeding edge of medicine," he said. But Connors seems pleased with life in Austin. "It's a small, friendly place where the people are laid back," he said. "And it's very attractive to professionals—a little bit like Minneapolis."

Unless something happens to make Minnesota more habitable for doctors, Connor said, he expects to see talent continue seeping out of the state. "I knew an awful lot of people who were in my training program, in a number of specialties, who would've loved to stay in Minnesota," he said. "But, unless they had some other source of income, or were independently wealthy, they just couldn't make a go of it."

One good thing about having lived in Minnesota, according to Connor, is that it gave him a glimpse of the future that came in handy when the HMOs started proliferating in Austin.

"I can't say we've taken advantage of the prepaid health plans, but at least we knew what to anticipate," he said. We feel we've been able to strike up relationships with them that have not been totally to our disadvantage. At least we don't feel we've been losers."

Connor was familiar with the down side of capitation agreements, for example. Understanding them enabled him to negotiate with HMOs, yet maintain some protection at the same time. "I also understood their efforts to control utilization," he said, "and knew what we could get in exchange for giving a low price. We could say, 'We want all your business,' or else not sign up at all. In a subtle, less overt way, we were also able to educate physicians about the quality of laboratory services."

Finally, Connor said he bids good riddance to one of the more distasteful aspects of practicing medicine in the Twin Cities; the ego battles between pathologists and their clients.

"That was one of the things I noticed during my training—that pathologists seemed to enjoy fighting with the surgeons and other doctors as much as they did doing their work," he said. "Pathologists in Minneapolis didn't seem to always realize who was buttering their bread."

## Ed Pierce, M.D.

Pierce is an internist originally recruited to Minnesota by a group of Wayzata doctors after finishing his residency in Ohio, in 1975. He spent 12 years here before relocating to Sidney, Montana—in the northeastern part of the state—last summer. He finally got fed up with poor financial rewards here, and the ethical dilemmas created by HMOs' incentive structures. Pierce said "the stress of having to balance our financial best interests against the needs of the patients," became too much.

"The way Share was set up, I was personally responsible for all of the costs involved in the care of my patients," he said. "And if I didn't provide any care, I made much more money—more than if I took care of my patients. So I had a financial incentive not to see patients, not to refer patients—to limit their care."

Things got so bad he ended up paying to see Share patients. And by the time he left, one-third to one-half of his patients belonged to Share or PHP. The incentives for limiting PHP patients' treatment were different, but produced the same effect, according to Pierce. "I wasn't directly capitated, but they held part of my fees and they'd give them back to me only if I provided less than an average amount of care," he said. And, he added, the two HMOs reimbursed an average of only 40 to 70 percent of his actual charges.

Under these conditions, Pierce said it just didn't make sense to stick it out in Wayzata. So he began scouring the country, looking for better professional and financial opportunities. He did his homework before choosing to settle down in the prairies of Montana.

"I literally talked to people all over the country before I decided to come to Montana," he said. "I talked to people from New York to Texas to Florida to the Carolinas, Georgia, North and South Dakota, Indiana, Ohio, Illinois. I talked about practice opportunities in all those areas and researched them all before I decided to come here." A New Jersey recruiter, who specializes in the area in which he now practices, convinced him Sydney had a lot going for it.

Pierce said there's a lot less stress practicing in Montana, and he doesn't have to put up with the kind of structural incentives to limit care, or not treat patients, that he dealt with in Minnesota. The monetary rewards are more efficiently parceled out, as well.

"The cash flow from the third party payers to us and the hospital is much better," he said, "because they pay us for the services we provide rather than spending a large share on marketing and administration and management costs, which is what I saw happening in Minnesota."

Competition in Montana isn't the kind of problem it was for many doctors in Minneapolis, either. There are only two other internists and two family practitioners in town. Pierce has enough work, but isn't stretched too thin. "I've got more time," he said, "and I am able to take more money out of the practice."

As for the question of whether talent is draining out of Minnesota to the rest of the country, Pierce said he doesn't think it's something to worry about.

"I don't think you need to keep all the doctors that you have there," he said. "That's why the payment plans have developed, because of the competition." ■

**"If I didn't provide any care, I made much more money. More than if I took care of my patients. So I had a financial incentive not to see patients. . . to limit their care."**

ROB LEVINE

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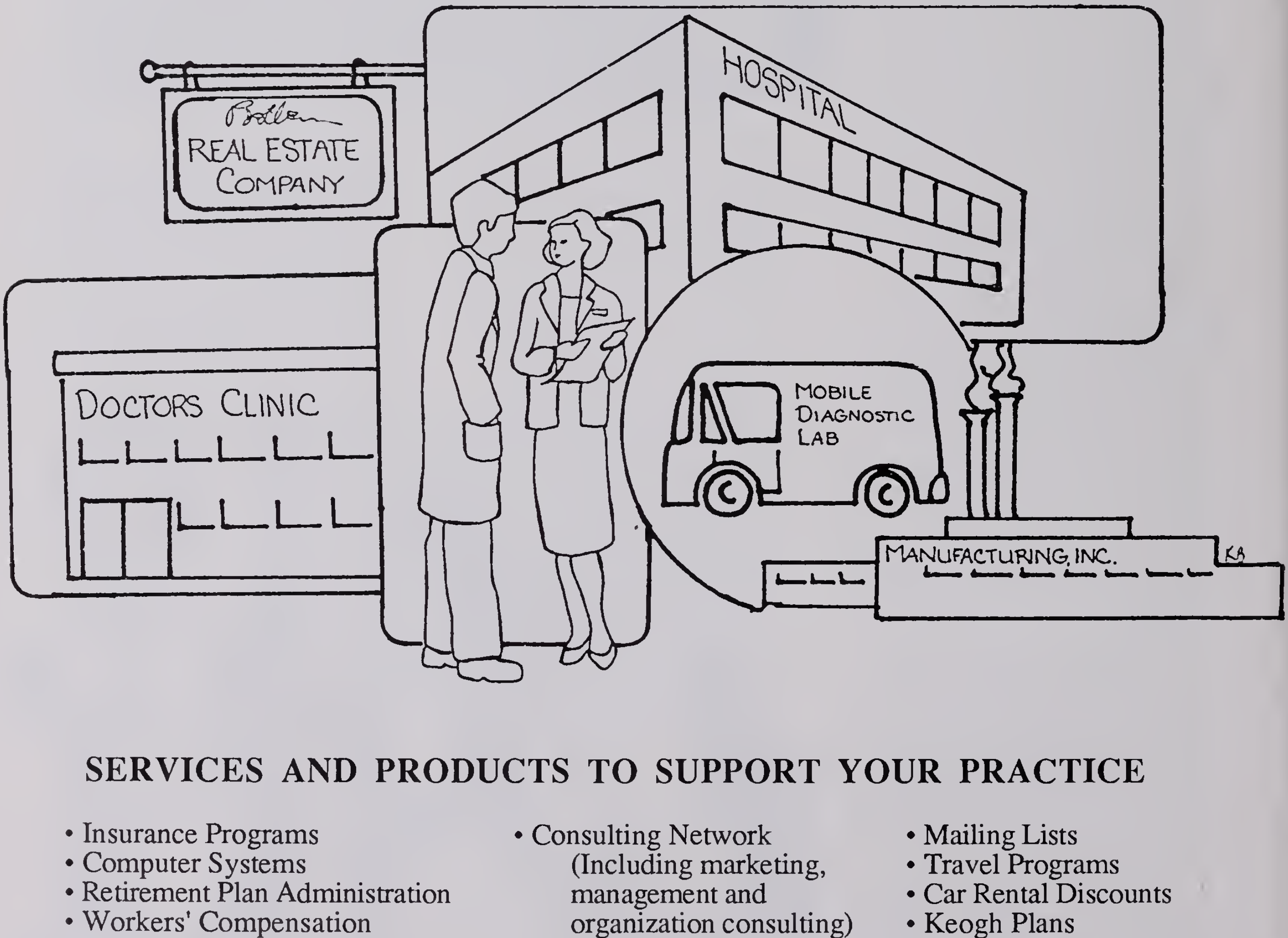

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# The Clinical Spectrum of Alcohol-Related Nontraumatic Rhabdomyolysis

*Richard N. Hellman, M.D., and Michael J. O'Neill, M.D.*

**The natural history of alcohol-related nontraumatic rhabdomyolysis and subsequent renal failure was studied by a 10-year, community-wide retrospective chart review. In addition, prospective analysis on long-term renal function in two patients and sequential laboratory studies into the pathogenesis of hypercalcemia during the diuretic phase in three patients, was performed. The study highlights the importance of alcohol intoxication, with or without subsequent immobilization, as the most common cause of nontraumatic rhabdomyolysis, in a community setting. The presenting blood chemistries, overall course, percentage requiring dialysis, and excellent short-term prognosis were similar to previous reports. However, in contrast to previous reviews: 1) the possibility of considerable morbidity is demonstrated; 2) data are presented to suggest that incomplete renal recovery, especially after repetitive episodes, may be more common than previously appreciated; 3) the frequency of concurrent cardiac abnormalities suggests a relationship between involvement at skeletal and cardiac muscle sites; 4) a case is presented that leads to postulation of a relationship between acute and chronic myopathy; and last, 5) support for a multifactorial explanation on the development of hypercalcemia during recovery is offered.**

Acute alcoholic myopathy is a rare cause of acute renal failure, but a common cause of nontraumatic rhabdomyolysis.[1] Although often accompanied by complicating factors such as other drugs, immobilization with compression, and seizures that could contribute to myonecrosis, alcohol under the right circumstances may be the sole agent inciting acute rhabdomyolysis. This has been well described after acute binge drinking, but controversy exists as to whether chronic alcoholic myopathy, in the absence of binge drinking, can serve as a substrate for acute rhabdomyolysis.[2]

Early case reports cited a high mortality after alcohol-induced rhabdomyolysis,[3,4,5] but more recent reviews have documented the excellent short-term prognosis.[1,6,7] However, only two case reports[5,8] document any long-term effects on renal function other than to document a return of renal output and resolution of the azotemia. Neither of these involved recurrent episodes. Yet, if it can be theorized that toxic pigment-cast proximal tubular injury is responsible, at least in part, for the initial insult,[9] recurrent episodes of myoglobinuria would place the kidneys at risk for chronic tubulointerstitial nephritis and sclerosis. This damage would be reflected in more sensitive indicators of renal function, e.g., creatinine clearance and concentrating ability.

Serious electrolyte fluctuations can occur during the course of rhabdomyolysis along with the dramatic clinical presentation. Early reports[3,4,5] describe hyperkalemia as a common cause of death. One curious finding is the development of hypercalcemia during the diuretic phase of the acute renal failure in 20 to 25 percent of the cases, despite initial normo- or hypocalcemia.[10,11] Several mechanisms have been offered to explain this hypercalcemia associated with rhabdomyolysis. The recent documentation of increased serum and urine calcium during the course of rhabdomyolysis despite concurrent idiopathic hypoparathyroidism and low levels of PTH[12] has renewed interest in elucidating the operative mechanism.

We studied 10 episodes of alcohol-associated rhabdomyolysis in nine patients to answer four questions: 1) What is the clinical spectrum of alcohol associated nontraumatic rhabdomyolysis in a community hospital? 2) What is the long-term effect, especially of repetitive episodes, on renal function? 3) Can chronic alcoholic myopathy in the absence of an acute binge cause acute rhabdomyolysis? and 4) What is the pathogenesis of the hypercalcemia during the diuretic phase of the acute renal failure?

## Patients and Methods

Charts of all cases of rhabdomyolysis occurring during a 10-year period from two community hospitals and the regional dialysis unit of Duluth, Minnesota, were retrospectively reviewed. Of them, any that involved alcohol as a possible etiologic agent were further studied. During the period while the review was actually in progress, two patients were available for prospective follow-up renal studies, and three were available for sequential laboratory investigation during the course of their renal failure. Serum immunoreactive PTH (Mayo Medical Laboratory), tubular reabsorption of phosphorus (TRP), and 24-hour urine calcium and phosphorus were performed in these three patients initially either at the peak of hypercalcemia or within five to 10 days of the initiation of the diuretic phase of the acute renal failure (ARF). In one patient, TRP and serum i-PTH were measured on recovery. Xeroradiography and technetium-99 pyrophosphate scanning were performed in two patients.

The diagnosis of rhabdomyolysis was made on the basis of the clinical setting and compatible laboratory findings. All patients had elevated creatine kinase (CK) levels. All the cases involved oliguric ARF, as defined by urine output less than 500 cc/day. Creatinine clearance values were obtained from calculation based on the standard 24-hour urine collection.

## Results

Table I summarizes the etiologies, presenting blood chemistries, and treatment of the ten episodes of ARF. Alcohol was involved in all the cases and was the sole direct myonecrotic insult in three of the episodes. Two patients (Cases 5 and 6) were not initially azotemic, but eventually developed mild BUN and creatinine elevations. Two patients died during follow-up: Case 5 of respiratory failure, ten months after his second documented episode of rhabdomyolysis; and Case 6 of hepatorenal syndrome, ten days after resolution of the initial oliguric renal failure. There were no deaths attributable directly to the ARF.

On initial presentation, one patient was hypercalcemic, and four were hypocalcemic. Of the cases available for further studies (Cases 1, 2, and 3), all were initially hypocalcemic, but two developed hypercalcemia four to five days after the initiation of the diuretic phase (Case 1 and 3). This lasted an average of six to seven days. The hypercalcemia responded to saline infusion and was not associated with increased morbidity. Table II summarizes the serum calcium, phosphorus, creatinine, immunoreactive PTH levels, urinary 24-hour calcium, phosphorus, and tubular reabsorption of phosphorous in the three patients. TRP was decreased in all three initially, ranging between 11 and 70 percent. Serum PTH was frankly increased in Case 1 and initially increased in Case 3. Twenty-four hour urine calcium was also increased in those two patients. Evidence of muscle calcification by technetium-99 pyrophosphate scanning and xeroradiography was found in Case 3, who developed hypercalcemia, but was absent in Case 2, who did not develop hypercalcemia. All patients had normal serum magnesiums when hypercalcemic, and normal serum calcium and phosphorus in the recovery phase of ARF. Follow-up parathyroid hormone levels and TRP after resolution of the renal failure were normal in Case 1.

Five of the nine patients had abnormal EKGs. In two of these patients, no obvious etiology was found, e.g. ASCAD. One of the patients had echocardiographic evidence of congestive cardiomyopathy, presumably alcohol related. There was no consistent electrocardiographic abnormality, but non-

**TABLE I**

| Case | Age/Sex | Etiology | BUN/Cr. | K+ | UA | Ca++ | CK | Treatment |
|---|---|---|---|---|---|---|---|---|
| 1 | 36, M | ETOH/Immob. | 91/12.4 | 5.6 | 15.9 | 8.4 | 23,000 | Hemodialysis X 4 |
| 2 | 42, M | ETOH/Valium/Immob. | 55/5.6 | 6.5 | 12.0 | 6.6 | 96,000 | Hemodialysis X 15 |
| 3 | 23, M | ETOH/Stellazine/Immob. | 76/5.5 | 6.1 | 10.4 | 7.6 | 81,000 | Hemodialysis X 12 |
| 4 | 59, M | ETOH/Seizures | 48/6.4 | 3.2 | 20 | 9.5 | 6,900 | Fluids/Lasix/Mannitol |
| 5 | 60, M | Chronic ETOH/Auto Ride | 36/2.1 | 4.3 | 5.4 | 11.0 | 134,000 | Fluids |
|  | 64, M | Chronic ETOH/GI Bleed | 26/1.0 | 4.9 | 9.3 | 8.8 | 67,800 | Fluids/Mannitol |
| 6 | 73, M | ETOH/Immob. | 14/1.2 | 4.4 | 5.5 | 8.8 | 1,400 | Fluids |
| 7 | 43, M | ETOH/Binge | 40/3.2 | 5.2 | 11.7 | 9.4 | 48,000 | Fluids/Lasix |
| 8 | 42, M | ETOH/Immob. | 11.7/8.7 | 7.9 | 17.1 | 5.9 | 218,000 | Hemodialysis X 8 |
| 9 | 27, M | ETOH/Frostbite | 32/3.8 | 4.2 | 19.3 | 8.5 | 2,400 | Fluids |

**TABLE II**

|  |  |  |  |  |  | Urine |  |  |  |
|---|---|---|---|---|---|---|---|---|---|
|  | Date | Ca++ Mg/dl | $PO_4$ mg/dl | Serum Creat. mg/dl | PTH[1] u1Eq/ml | Ca++ mg/24h | $PO_4$ g/24h | TRP[2] % | Muscle Calcification[3] |
| Case 1 | 08-03 | 14.7 | 5.9 | 2.8 | 85 | 560 | 1.1 | 70 |  |
|  | 10-04 | 9.7 | 3.6 | 0.6 | 40 |  |  | 97 |  |
| Case 2 | 01-10 | 9.0 | 3.9 | 1.3 | 49 | 81 | 1.0 | 50 | Negative |
|  | 02-02 | 9.1 | 4.4 | 0.7 |  |  |  |  |  |
| Case 3 | 01-10 | 13.3 | 5.8 | 6.9 | 36 | 662 | 1.4 | 11.0 | Positive |
|  | 01-30 | 9.7 | 4.1 | 1.0 |  |  |  |  |  |

1. PTH N(20-70 ulEq.ml)
2. TRP N(82-97%)
3. Xeroradiography
   Tc$^{99}$ PTP scan

specific findings of left ventricular hypertrophy, low-grade AV block, and intraventricular conduction delay were found.

All patients had resolution of the acute renal failure and resultant azotemia. In two patients, more detailed analysis of follow-up renal function was made. Case 5 had a creatinine clearance of 47 cc/min. at three weeks post ARF. Case 7 had a creatinine clearance of 17 cc/min. at four months after complete clinical resolution of a single episode of ARF.

## DISCUSSION

### Diagnosis

In a florrid, obvious case of prolonged immobilization and acute oliguria with dark urine, the diagnosis of rhabdomyolysis is not difficult. But the diagnosis of rhabdomyolysis can be overlooked as in the typical comatose patient suspected of drug overdose. The myoglobinuria is a transient phenomenon that may have resolved on, or shortly after, presentation. Even when carefully looked for, myoglobinuria is found in only approximately 50 percent of cases of rhabdomyolysis.[13] A high index of suspicion is needed in the critical period where the acute renal failure might be aborted by efforts to ensure renal perfusion. Also, the insidious development of a compartment syndrome must be anticipated or can likewise be missed, with disastrous repercussions. Three of our patients developed this complication. Their average length of hospital stay was almost twice that of those patients who avoided this problem.

Rhabdomyolysis was not diagnosed upon presentation in most of our patients. Muscle pain was misdiagnosed as acute arterial occlusion in one patient. One case of ensuing renal failure was incorrectly attributed to uric acid nephropathy. One case of ARF was appreciated only in retrospect, because the elevated CK levels were attributed to a cardiac source. Another case was admitted with a diagnosis of "acute glomerulonephritis," despite a normal urinary sediment. Lastly, several cases were labeled "chronic alcoholic neuropathy."

### Traumatic Versus Nontraumatic

Since the classical description of traumatic rhabdomyolysis in wartime by Bywaters more than 45 years ago,[14] nontraumatic etiologies have assumed a greater role, and in particular, alcohol may represent the most frequent factor identified. Of all the cases of rhabdomyolysis reviewed during a 10-year period, only two did not involve alcohol as a contributing agent. Three of the 10 episodes involved alcohol as the sole agent. This is in agreement with Gabow, et al.,[1] who identified alcohol as a factor in 58 of 87 episodes of rhabdomyolysis, and as the sole agent in 18 of those cases.

### Acute Versus Chronic Myopathy

A chronic form of alcoholic myopathy, separate and more common than the dramatic acute myopathy described above, has been recognized for over twenty years and is now well characterized.[15,16] Although there is some disagreement on the exact incidence, most authors have found clinical, histopathological, and laboratory evidence of a chronic myopathy in a significant number of alcoholics when screened.[17,18,19] This disease process is usually asymptomatic but can cause a progressive and usually painless wasting and weakness of the proximal muscle group. It has been postulated that because patients with chronic myopathy typically have no history of acute alcoholic myopathy, and because patients with recurrent acute alcoholic myopathy have no apparent predisposition to develop the chronic disorder, that the two forms of myopathy are unrelated.[2,20]

Case 5, however, disputes both of those contentions. Although a primary underlying myopathy in this case cannot be excluded, the repetitive episodes in the absence of binge drinking leads us to believe that acute and chronic alcoholic myopathy share a common pathogenesis. There is dispute as to whether myoglobin itself is directly nephrotoxic; however, when coupled with hypotension, acidosis, and electrolyte disturbances, myoglobinuria can induce acute tubular necrosis. This would be consistent with a unifying hypothesis that chronic myopathy with insidious and subclinical myoglobinuria could serve as a substrate for acute renal failure given the right combination of contributing factors. Saltissi, et al.,[21] recently documented acute renal failure in three such patients following acute medical and surgical stress, but not related to an acute binge. Thus, as Case 5 shows, we might expect the occurrence of rhabdomyolysis and acute renal failure in chronic alcoholics with myopathy unrelated to alcohol ingestion.

### Long-term Renal Function

We could find only two papers that addressed the issue of any long-term effects of alcoholic rhabdomyolysis on renal function.[5,8] Ghose, et al., obtained follow-up creatinine clearance of 97 cc/min./1.7m² at six months after one case of ARF, and another clearance of 76 in a 28-year-old, three weeks after his beer-drinking binge. Hed, et al., mentioned a return to normal renal function as demonstrated by creatinine clearance in two of the cases quoted. In our study, follow-up clearance values were available in two patients (Cases 5 and 7) and demonstrated incomplete recovery. The clearance value of 47 cc/min. at three weeks post-ARF in Case 5 may be invalid as an indicator of permanent renal status, since it has been suspected that at least two months may be needed before glomerular filtration returns to normal.[9]

Incomplete renal functional recovery and even progressive deterioration may occur despite clinical recovery from acute renal failure.[22,23] None of the cases cited in the above reviews involved repetitive episodes as in Case 5. However, McCarron, et al.,[24] histologically documented chronic tubulointerstitial nephritis caused by recurrent myoglobinuria in a patient with McArdle's disease. Of note was the disparity between renal function, as measured by serum creatinine levels and creatinine clearance values, and the extent of tubulointerstitial fibrosis. As in the above citations, the age at onset of the acute renal failure and development of compensatory hyperfiltration may be important in the development of incomplete recovery. Biopsy results were not available post-mortem in Case 5, but we would expect some evidence of tubulointerstitial nephritis with sclerosis.

## Hypercalcemia

Four basic mechanisms have been offered to explain the hypercalcemia associated with rhabdomyolysis that develops in the diuretic phase: 1) transient secondary hyperparathyroidism, 2) immobilization, 3) remobilization of previously deposited calcium in damaged muscle, and 4) fluctuations of 1,25-dihydroxycholecalciferol independent of PTH levels.[25,26,27,28] In accordance with other reports, hypercalcemia occurred in the diuretic phase of ARF in two-thirds of our patients available for further investigation. The radiographic evidence of muscle calcification and sequential serum and urine calcium and PTH profiles in Case 3 supports the genesis of hypercalcemia, at least in part, from remobilization of previously deposited calcium.

The elevated PTH in Case 1, and detection of even measurable amounts of PTH in Case 3, leads us to believe the remobilization occurs in association with transient secondary hyperparathyroidism, increased 1,25-dihydroxycholecalciferol synthesis, or resolution of factors contributory to PTH resistance with resolving uremia. The increased urinary calcium only in those cases with hypercalcemia suggest a transient overwhelming of the normal mechanisms for handling a calcium load.

## Concurrent Cardiac Involvement

The majority of our patients had evidence of cardiac dysfunction as manifested by abnormal EKGs or overt heart failure. In two of these cases, no causative etiology was found other than alcohol. Many authors have speculated that the rarity with which cardiac involvement has been reported during rhabdomyolysis implies that damage at the two sites is unrelated. Although the few autopsies that have been done on patients with rhabdomyolysis have not consistently shown cardiac muscle necrosis, there is experimental evidence of the multiple deleterious effects of alcohol on cardiac microstructure and gross function.[29,30] Perkoff, et al.,[31] as one of the initial describers of alcoholic myopathy, was also the first to speculate that alcohol could have similar effects on both skeletal and cardiac muscle. Most of the literature consists of case reports on concurrent cardiac involvement.[32,33] However, Senevirante[34] reported on three of five alcoholics with rhabdomyolysis who had heart failure that could not be explained by myocardial infarction or vitamin deficiency. Tuller[35] also mentions cardiac involvement as being typical in 17 patients with rhabdomyolysis. Subclinical involvement not easily recognized short of overt unexplained heart failure probably explains why cardiac and electrolyte abnormalities associated with the ARF on the electrocardiogram may also be contributory; however, we can see no anatomic or physiologic reason why cardiac muscle should be spared.

Case 5 died of respiratory failure presumed secondary to long-standing COPD. It is interesting that final progress notes describe "profound hypoventilation" and "weakness." We postulate that respiratory muscle involvement from repeated episodes of rhabdomyolysis surely contributed to his respiratory insufficiency. Respiratory and deglution involvement have been documented with essentially the same frequency as cardiac involvement.[36,37]

## Treatment

Treatment consists of an early initial therapeutic trial of ensuring renal perfusion and treatment of the renal failure in the usual manner should this fail. Controlled trials with specific agents are lacking. Ron, et al.,[38] were able to prevent the development of azotemia or renal failure in seven patients with extensive crush injuries and evidence of severe rhabdomyolysis by inducing an alkaline urine diuresis of 300 cc or more per hour with sodium bicarbonate and mannitol. Several studies have demonstrated the lack of predictors of which patients with rhabdomyolysis will enter ARF.[1,39] The frequency of oliguria, dialysis, and death in rhabdomyolysis-induced ARF appears similar to other causes of ARF. Hypercalcemia in the diuretic phase of ARF responds to saline infusion and was not associated with increased morbidity or mortality.

## Prognosis

A recent textbook on acute renal failure[40] states that the mortality rate of rhabdomyolysis may be as high as 50 percent. This reflects initial case reports before the availability of current dialysis and ICU facilities. Therefore, whereas mortality from the ARF is uncommon, morbidity has assumed a greater role, especially after fasciotomy for compartment syndrome where limb rehabilitation efforts are costly and prolonged. Also, recurrent admissions for other alcohol-related problems is common.

## Summary

The study confirms the natural history of alcohol-related rhabdomyolysis in a community setting and highlights the importance of alcohol as a contributing factor to most cases of non-traumatic rhabdomyolysis. In addition, it suggests the need for further studies to confirm and define any effects on long-term renal function and document the incidence of concurrent cardiac involvement. Further studies are also needed to elucidate the mechanism(s) of the diuretic-phase hypercalcemia. The excellent short-term prognosis but potential for considerable morbidity is stressed.

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## **Wilson** from page 736

physicians are currently working and tried to focus on the individual relationships between the first, second, third, and fourth parties, because they aren't widely recognized. Their effects are felt everywhere, such as with incentives to change patterns of care or limit access. If you don't understand that there are four parties involved and what the interests of the various parties are, it's difficult to understand what's happened. That evolution occurred largely during the 1970s.

REECE: *What are the consequences of this four-party system on the personal practice of the physician?*

WILSON: The personal practices of Minnesota physicians are less enjoyable, limit physicians' ability to be an advocate for patients, create increased financial pressures, result in increased bureaucratic pressures or management pressures, and hinder the physicians' capacities to do what they think is proper.

REECE: *Let's go back to the beginning. How did this committee report get its start? How long did it take? What was the process?*

WILSON: The Committee on Competition was formed in spring of 1986. The House of Delegates established the committee to study the physicians' working environment. Physicians were experiencing increasing difficulty in their medical practices. There weren't any significant physician-based studies that defined the magnitude of these changes. The committee met in 1986 and 1987. It was made up of physicians from all walks of practice—specialty and primary care—from all parts of the state. They varied from solo practitioners to corporate health plan medical directors. We took a broad view. We interviewed representatives of regulatory agencies, the medical schools, health plans, attorneys, and practicing doctors.

On the basis of the first year's activity, we submitted a report. The House of Delegates acted to continue the committee's work for a second year. During the second year, 1987 to 1988, we were specifically asked to deal with aspects of financial conflict of interest. Many physicians perceived these conflicts as a problem in the managed care system.

REECE: *And what did you conclude about conflicts of interest?*

WILSON: We concluded that, in the two-party system (sometimes referred to as the fee-for-service system) possibilities exist for a conflict of interest. We defined a conflict of interest as a situation in which a fiduciary stands to personally gain by selecting one option from several competing alternatives. In a fee-for-service system transaction, a physician may serve his own or her own financial interest first rather than serving the patient's medical or financial interest first. This potential for abuse has long been recognized, and ethical proscriptions and legal prohibitions have been developed to protect the patient's interest.

In the four-party system, a more recent development, there are other newer and less well-recognized possibilities for a conflict of interest. It may be in the physician's financial interest to underserve at the expense of the patient's medical interest. We were most concerned about the legally structured mechanism for physician risk-sharing. Through a change in state law in 1973, physicians were permitted or required to share financial risk. The thought was that if you share financial risk for a portion of the medical care delivered that you would then be more conservative in the use of resources.

We viewed this risk-sharing arrangement in the four-party system as a problem. We studied a legal case, currently being considered in Michigan, in which an adverse outcome, allegedly due to underserving, was being brought to trial. One of the allegations in Michigan was that the payment mechanism to limit care contributed to the poor result. A financial incentive to limit care practically makes the case indefensible on its medical merits.

We also took testimony from experts who said the physician's fiduciary responsibility required an open understanding between physician and patient of the financial transactions as well as the medical transactions of medical care payment mechanisms that are discoverable in court. In some circumstances, we learned, there might be excessive incentives to limit care. These incentives would pose a risk not only for the patient, but also the physician. There's a significant liability risk to the doctor if you depart from community standards of care because of economic incentives.

We took testimony from physicians who felt these pressures. The pressures to limit care were clearly documented in the physicians' survey that was published in *Minnesota Medicine*. Legal scholars told us of the legal necessity to have open dealings. Essentially, the medical transaction, both medically and financially, should be viewed as transparent; that is, you must have an informed public.

REECE: *The conflict of interest section in your report is perhaps the most controversial part of that report. Why is that?*

WILSON: It was controversial because, while the committee was unanimous, not everybody in the MMA agreed that risk-sharing is inappropriate. Excellent physicians, working in a variety of settings, feel it is proper to have a stimulus in the form of risk-sharing to rationalize the delivery of medical care services. They wish to continue in patterns that are currently working for them. Our position was threatening, because any proposal to alter the status quo might be perceived as the medical society withdrawing endorsement of risk-sharing practice or plans.

It was also controversial, because some doctors felt the initiative impugned their integrity as ethical, high quality, innovative physicians. This is hardly the case—risk-sharing is mandated by state law and clearly falls within ethical practice guidelines. It's just the case in Minnesota that exceedingly low reimbursement levels have thrown the physicians' financial and liability risk problems into stark relief.

Physicians should be held to reasonable standards of medical care. We proposed state medical association standards of care that physicians can deal with. The standards initiative is straightforward. It's a proposal to supplant financial incentives with medical standards incentives so that you can have a forward-looking system that allows neither the patient nor the physician to be at risk for overutilization or underutilization and that allows a transparency of financial transaction that would stand legal scrutiny. Such an approach would allow a predictable medical care system that actuaries could reasonably, prospectively assess and predict.

REECE: *To reduce this to its basic elements: you have fears in that the capitated approach by health plans could result in underservice, and this underservice has ominous legal implications?*

WILSON: Yes.

REECE: *Let's explore the subject of risk. It strikes me as an injustice that physicians, given a small population of patients, are subjected to not only more financial risk but to more malpractice risk. Is my perception correct?*

WILSON: That's correct. The committee perceived that two kinds of risk existed in all of these contracts. One was the financial risk associated with the care of a group of patients. The second was the increased medical malpractice liability risk because of financial incentive to limit care.

REECE: *Why do we have this difficulty? Is there a legal principle here?*

WILSON: The difficulty arises because the Medical Practice Act of the state of Minnesota contains limitations on allowable incentives to physicians to influence their care. This is commonly referred to as the fee-splitting portion of the statute. In 1973, a specific exception was made to the Medical Malpractice Act in the HMO legislation which allowed physician risk-sharing that would not be scrutinized by the Board of Medical Examiners. It was a specific incentive designed to limit or constrain medical care cost at the time and is the responsibility of the health department.

REECE: *So this 1973 Minnesota law makes fee-splitting a moot point?*

WILSON: The Medical Practice Act still has jurisdiction in what might be considered the two-party system, but not in the four-party risk-sharing system. In the risk sharing managed care industry, the possibility for financial incentives for decreased care remains, whereas, under the Medical Practice Act, financial incentives are prohibited.

REECE: *What does this mean to practicing physicians?*

WILSON: The difficulty with having a financial inducement to limit care is twofold. As reimbursement decreases, the ability to deliver community standard medical care is limited. As these limitations go into effect, the medical malpractice liability risk of physicians increases.

REECE: *So, as the physician's reimbursement deteriorates, his ability to provide the care deteriorates. Lacking any standards, he becomes defenseless.*

WILSON: You have grasped the point. Or, to rephrase it, as his or her financial risk increases, the medical malpractice liability risk increases because of the difficulty of defending any suit that came out of such an environment.

REECE: *What we've been talking about distresses physicians. What your committee recommends is that the Minnesota Medical Association support legislation barring contracts that induce doctors to reduce or limit services. Instead, you want them to set standards and have the medical community meet those standards of practice. Is that doable? Won't critics complain about physicians being the foxes in the chicken house?*

WILSON: The committee thought it was do-able. Otherwise we wouldn't have recommended it. The malpractice risk to physicians by legally institutionalized financial incentives will be an increasing problem for physicians. And it was the committee's view that adhering to professionally developed standards of care was really the only defense a physician had against being accused of overutilization or underutilization. Small area variation analysis is a powerful tool to monitor doctors' behavior.

REECE: *Your committee also found physicians felt woefully unprepared to cope with negotiating HMO contracts, in limiting their financial risk, in marketing their practice, and dealing with business matters. As a result, you recommended that the medical schools modify their curriculum to prepare physicians for the real world.*

**Essentially, the medical transaction, both medically and financially, should be viewed as transparent; that is, you must have an informed public.**

WILSON: Right. Physicians told us they are inadequately trained to cope with the legal and business environment in which a practice operates. These physicians include those in specialty practice, group practice, multispecialty group—whatever arrangement. Physicians have become confused about their philosophical roots, the legal environment in which they work, and the business environment in which they work. There's an absolute necessity for the medical schools to address this deficiency. This was clearly outlined in the survey that was conducted one year ago.

REECE: *Have you taken that proposal to the University of Minnesota Medical School, and if so, what have they said?*

WILSON: This recommendation has been forwarded to the liaison committee. It's not clear at this point what the medical schools will say.

REECE: *You brought this committee report to the May meeting of the Minnesota Medical Association. What decisions were reached? When will the final decisions be made on your recommendations?*

WILSON: The most controversial parts of this report, those dealing with conflict of interest and the suggestion to consolidate medical plan regulation in a single agency of state government, will be addressed at the November 5, 1988, meeting of the MMA Board of Trustees.

REECE: *Considering all this work by the committee and hearing all of this testimony you've heard, you must have some vision of the future. Could you share it with me?*

WILSON: The committee had a view that a future medical care system should be one in which patients can participate with confidence; one in which medical decisions will be made based primarily on the merits of their case; a medical system in which physicians can survive with protection from over- or underutilization of financial incentives; and one in which practice should be consistent with the highest professional and scientific standards. Finally, we think standards would make a more predictable medical system so that actuaries can reasonably and prospectively predict resource requirements. The system must be able to withstand full public disclosure of payment mechanisms that might occur in medical malpractice proceedings. ■

# PRESIDENT'S LETTER

LAWRENCE M. POSTON, M.D.

## Living Will Legislation—Long Overdue in Minnesota

The Minnesota Medical Association will strongly support the enactment of a living will bill, the Adult Health Care Decisions Act, by the 1988-1989 session of the state legislature. At last count, 38 states and the District of Columbia already have passed some form of living will legislation.

For the past two sessions, we have been part of a coalition of several senior citizen groups, the Minnesota Nurses Association and the Minnesota Hospital Association, several long-term care organizations, and the Minnesota Bar Association. These organizations have joined together to form the Living Will Coalition. Representatives from each of the individual groups have spent a great deal of time studying the issues, developing appropriate legal language for such legislation, and urging our state legislators to enact the concept into law.

This president's letter is my attempt to bring the issue into sharp focus with the hope that you, the physicians of Minnesota, will also work for the passage of living will legislation by explaining the matter to your own individual legislators and to your patients, if that is appropriate.

The concept of the living will (sometimes called an advance directive) is a simple one. It is a formalized, written statement made by a competent adult to a physician, hospital, or nursing home. The statement makes clear the patient's directions regarding medical treatment, to be followed should the patient later become incompetent and unable to make treatment decisions. The document also allows for the designation of a proxy decision maker.

The directive becomes operational *only* in the unfortunate instance of patient incompetence. In all medical circumstances involving a *competent* patient, the Patient's Bill of Rights, which is codified in existing Minnesota law, requires that the patient be informed of diagnosis, prognosis, and treatment options and that, provided with that knowledge, the patient has the right to request, accept, or refuse any or all possible medical treatment. Thus the proposed living will legislation is simply an extension of self determination guaranteed for the competent person by the Patient's Bill of Rights, to be safeguarded in event of the future mental incapacity.

Our patients who pursue this legislation with us (many of whom are senior citizens) have repeatedly expressed concern, based on personal experience with friends or loved ones, that our system of medical care often seems unwilling to stop in the use of technological forms of treatment, even when such treatment offers very little hope of significant patient improvement. They cite examples of respirators, cardiac pacemakers, renal dialysis, cardiac resuscitation, and artificial hydration and nutrition (including feeding gastrostomies, naso-gastric feeding tubes, and parenteral alimentation). They fear that these treatment modalities will be applied to them when they can no longer say, "No!"

A living will would provide them with a means by which they could inform us of their wishes regarding such medical treatment with the expectation, under the law, that we will comply with their decisions or, if we have philosophical difficulty with such an agreement, that we will so inform them and help them to find a physician who can agree with their direction. Of course, no physician need agree to murder, euthanasia, or assisted suicide. Indeed, those actions are forbidden under existing laws.

It should be pointed out that a living will also provides patients a means to direct that all available treatment and technology consistent with good medical practice *will be provided* for them in the event of mental incapacity.

It requires but little reflection to realize that such a document presented by a patient to a doctor provides a unique opportunity for discussion and clarification of many aspects of medical care, particularly those relating to management at or near the end of life. Family members and proxy decision makers should be involved in these discussions whenever possible. Concern with such details and patient feelings regarding them ought to be a routine element in the care of our patients, particularly the elderly. Indeed, I believe we ought to raise the issues involved in the living will concept ourselves. Our knowledge of our patients'—and their families'—wishes, in advance of calamity, will enhance our medical decision making.

There are some practical, political aspects to the enactment of a living will bill. The opponents of our proposal have drafted alternative legislation that is not a living will bill at all. It seeks to require that no advance directive can be considered valid unless the declarer has a clear diagnosis of life-threatening disease, illness, or injury and is competent to understand the ramifications at the time the living will is executed. The opposing bill would further require that under no circumstances,

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  - **lower respiratory tract†**
  - **urinary tract†**
  - **skin/skin structure†**
  - **bones and joints†**
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†**Due to susceptible strains of indicated pathogens. See indicated organisms in Brief Summary.**

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A history of hypersensitivity to ciprofloxacin is a contraindication to its use. A history of hypersensitivity to other quinolones may also contraindicate the use of ciprofloxacin.

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## ■ 500 mg q12h for most infections;
## 750 mg q12h for severe or complicated infections.

# CONVENIENT *B.I.D.* DOSAGE

## Recommended dosage schedule

| Infection Site* | Severity of Infection | Dosage |
|---|---|---|
| Respiratory Tract*<br>Bone and Joint*<br>Skin/Skin Structure* | Mild/Moderate | 500 mg q12h |
| | Severe/Complicated | 750 mg q12h |
| Urinary Tract* | Mild/Moderate | 250 mg q12h |
| | Severe/Complicated | 500 mg q12h |
| Infectious Diarrhea* | Mild/Moderate/Severe | 500 mg q12h |

### CIPRO®
### (ciprofloxacin hydrochloride/Miles)
### TABLETS

### BRIEF SUMMARY
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### INDICATIONS AND USAGE

Cipro® is indicated for the treatment of infections caused by susceptible strains of the designated microorganisms in the conditions listed below

**Lower Respiratory Infections** caused by *Escherichia coli, Klebsiella pneumoniae, Enterobacter cloacae, Proteus mirabilis, Pseudomonas aeruginosa, Haemophilus influenzae, Haemophilus parainfluenzae*, and *Streptococcus pneumoniae.*

**Skin and Skin Structure Infections** caused by *Escherichia coli, Klebsiella pneumoniae, Enterobacter cloacae, Proteus mirabilis, Proteus vulgaris, Providencia stuartii, Morganella morganii, Citrobacter freundii, Pseudomonas aeruginosa, Staphylococcus aureus* (penicillinase and nonpenicillinase-producing strains), *Staphylococcus epidermidis*, and *Streptococcus pyogenes*

**Bone and Joint Infections** caused by *Enterobacter cloacae, Serratia marcescens*, and *Pseudomonas aeruginosa.*

**Urinary Tract Infections** caused by *Escherichia coli, Klebsiella pneumoniae, Enterobacter cloacae, Serratia marcescens, Proteus mirabilis, Providencia rettgeri, Morganella morganii, Citrobacter diversus, Citrobacter freundii, Pseudomonas aeruginosa, Staphylococcus epidermidis*, and *Streptococcus faecalis*

**Infectious Diarrhea** caused by *Escherichia coli* (enterotoxigenic strains), *Campylobacter jejuni, Shigella flexneri,** and *Shigella sonnei** when antibacterial therapy is indicated

*Efficacy for this organism in this organ system was studied in fewer than 10 infections

Appropriate culture and susceptibility tests should be performed before treatment in order to isolate and identify organisms causing infection and to determine their susceptibility to ciprofloxacin Therapy with Cipro® may be initiated before results of these tests are known, once results become available appropriate therapy should be continued. As with other drugs, some strains of *Pseudomonas aeruginosa* may develop resistance fairly rapidly during treatment with ciprofloxacin Culture and susceptibility testing performed periodically during therapy will provide information not only on the therapeutic effect of the antimicrobial agent but also on the possible emergence of bacterial resistance

### CONTRAINDICATIONS

A history of hypersensitivity to ciprofloxacin is a contraindication to its use A history of hypersensitivity to other quinolones may also contraindicate the use of ciprofloxacin

### WARNINGS

CIPROFLOXACIN SHOULD NOT BE USED IN CHILDREN, ADOLESCENTS, OR PREGNANT WOMEN The oral administration of ciprofloxacin caused lameness in immature dogs Histopathological examination of the weight-bearing joints of these dogs revealed permanent lesions of the cartilage Related drugs such as nalidixic acid, cinoxacin, and norfloxacin also produced erosions of cartilage of weight-bearing joints and other signs of arthropathy in immature animals of various species (SEE ANIMAL PHARMACOLOGY SECTION IN FULL PRESCRIBING INFORMATION).

### PRECAUTIONS

**General**: As with other quinolones, ciprofloxacin may cause central nervous system (CNS) stimulation, which may lead to tremor, restlessness, lightheadedness, confusion, and very rarely to hallucinations or convulsive seizures Therefore, ciprofloxacin should be used with caution in patients with known or suspected CNS disorders, such as severe cerebral arteriosclerosis or epilepsy, or other factors which predispose to seizures (SEE ADVERSE REACTIONS).

Quinolones may also cause anaphylactic reactions and cardiovascular collapse Anaphylactic reactions may require epinephrine and other emergency measures

Crystals of ciprofloxacin have been observed rarely in the urine of human subjects but more frequently in the urine of laboratory animals Crystalluria related to ciprofloxacin has been reported only rarely in man, because human urine is usually acidic. Patients receiving ciprofloxacin should be well hydrated, and alkalinity of the urine should be avoided The recommended daily dose should not be exceeded Alteration of the dosage regimen is necessary for patients with impairment of renal function (SEE DOSAGE AND ADMINISTRATION SECTION IN FULL PRESCRIBING INFORMATION).

**Drug Interactions**: Concurrent administration of ciprofloxacin with theophylline may lead to elevated plasma concentrations of theophylline and prolongation of its elimination half-life This may result in increased risk of theophylline-related adverse reactions If concomitant use cannot be avoided, plasma levels of theophylline should be monitored and dosage adjustments made as appropriate

Antacids containing magnesium hydroxide or aluminum hydroxide may interfere with the absorption of ciprofloxacin, resulting in serum and urine levels lower than desired, concurrent administration of these agents with ciprofloxacin should be avoided

Probenecid interferes with the renal tubular secretion of ciprofloxacin and produces an increase in the level of ciprofloxacin in the serum This should be considered if patients are receiving both drugs concomitantly

As with other broad-spectrum antibiotics, prolonged use of ciprofloxacin may result in overgrowth of nonsusceptible organisms Repeated evaluation of the patient's condition and microbial susceptibility testing is essential If superinfection occurs during therapy, appropriate measures should be taken

**Information for Patients**: Patients should be advised that ciprofloxacin may be taken with or without meals The preferred time of dosing is two hours after a meal Patients should also be advised to drink fluids liberally and not take antacids containing magnesium or aluminum concomitantly or within two hours after dosing Ciprofloxacin may cause dizziness or lightheadedness therefore patients should know how they react to this drug before they operate an automobile or machinery or engage in activities requiring mental alertness or coordination

**Carcinogenesis, Mutagenesis, Impairment of Fertility**: Eight *in vitro* mutagenicity tests have been conducted with ciprofloxacin and the test results are listed below

- Salmonella/Microsome Test (Negative)
- *E coli* DNA Repair Assay (Negative)
- Mouse Lymphoma Cell Forward Mutation Assay (Positive)
- Chinese Hamster $V_{79}$ Cell HGPRT Test (Negative)
- Syrian Hamster Embryo Cell Transformation Assay (Negative)
- *Saccharomyces cerevisiae* Point Mutation Assay (Negative)
- *Saccharomyces cerevisiae* Mitotic Crossover and Gene Conversion Assay (Negative)
- Rat Hepatocyte DNA Repair Assay (Positive)

Thus, two of the eight tests were positive, but the following three *in vivo* test systems gave negative results

- Rat Hepatocyte DNA Repair Assay
- Micronucleus Test (Mice)
- Dominant Lethal Test (Mice)

Long-term carcinogenicity studies in animals have not yet been completed

**Pregnancy – Pregnancy Category C**: Reproduction studies have been performed in rats and mice at doses up to six times the usual daily human dose and have revealed no evidence of impaired fertility or harm to the fetus due to ciprofloxacin In rabbits, as with most antimicrobial agents, ciprofloxacin (30 and 100 mg/kg orally) produced gastrointestinal disturbances resulting in maternal weight loss and an increased incidence of abortion No teratogenicity was observed at either dose After intravenous administration, at doses up to 20 mg/kg, no maternal toxicity was produced, and no embryotoxicity or teratogenicity was observed There are, however, no adequate and well-controlled studies in pregnant women SINCE CIPROFLOXACIN, LIKE OTHER DRUGS IN ITS CLASS, CAUSES ARTHROPATHY IN IMMATURE ANIMALS, IT SHOULD NOT BE USED IN PREGNANT WOMEN (SEE WARNINGS)

**Nursing Mothers**: It is not known whether ciprofloxacin is excreted in human milk; however, it is known that ciprofloxacin is excreted in the milk of lactating rats and that other drugs of this class are excreted in human milk. Because of this, and because of the potential for serious adverse reactions from ciprofloxacin in nursing infants, a decision should be made to discontinue nursing or to discontinue the drug, taking into account the importance of the drug to the mother.

**Pediatric Use**: Ciprofloxacin should not be used in children because it causes arthropathy in immature animals (SEE WARNINGS).

### ADVERSE REACTIONS

Ciprofloxacin is generally well tolerated. During clinical investigation, 2,799 patients received 2,868 courses of the drug Adverse events that were considered likely to be drug related occurred in 7.3% of courses, possibly related in 9 2%, and remotely related in 3.0%. Ciprofloxacin was discontinued because of an adverse event in 3 5% of courses, primarily involving the gastrointestinal system (1.5%), skin (0.6%), and central nervous system (0 4%).

The most frequently reported events, drug related or not, were nausea (5.2%), diarrhea (2.3%), vomiting (2.0%), abdominal pain/discomfort (1 7%), headache (1 2%), restlessness (1.1%), and rash (1.1%).

Additional events that occurred in less than 1% of ciprofloxacin courses are listed below Those typical of quinolones are italicized

GASTROINTESTINAL: *(See above)*, painful oral mucosa, oral candidiasis, dysphagia, intestinal perforation, gastrointestinal bleeding

CENTRAL NERVOUS SYSTEM *(See above), dizziness, lightheadedness, insomnia, nightmares, hallucinations, manic reaction, irritability, tremor, ataxia, convulsive seizures, lethargy, drowsiness, weakness, malaise, anorexia, phobia, depersonalization, depression, paresthesia*

SKIN/HYPERSENSITIVITY *(See above), pruritus, urticaria, photosensitivity, flushing, fever, chills, angioedema, edema of the face, neck, lips, conjunctivae or hands*, cutaneous candidiasis, hyperpigmentation, erythema nodosum

Allergic reactions ranging from urticaria to anaphylactic reactions have been reported

SPECIAL SENSES: *blurred vision, disturbed vision, (change in color perception, overbrightness of lights), decreased visual acuity, diplopia, eye pain, tinnitus, bad taste.*

MUSCULOSKELETAL. *joint or back pain, joint stiffness*, achiness, neck or chest pain, flare-up of gout

RENAL/UROGENITAL *interstitial nephritis, renal failure*, polyuria, urinary retention, urethral bleeding, vaginitis, acidosis

CARDIOVASCULAR: palpitations, atrial flutter, ventricular ectopy, syncope, hypertension, angina pectoris, myocardial infarction, cardiopulmonary arrest, cerebral thrombosis

RESPIRATORY epistaxis, laryngeal or pulmonary edema, hiccough, hemoptysis, dyspnea, bronchospasm, pulmonary embolism.

Most of these events were described as only mild or moderate in severity, abated soon after the drug was discontinued, and required no treatment

In several instances, nausea, vomiting, tremor, restlessness, agitation, or palpitations were judged by investigators to be related to elevated plasma levels of theophylline possibly as a result of a drug interaction with ciprofloxacin

**Adverse Laboratory Changes**: Changes in laboratory parameters listed as adverse events without regard to drug relationship:

Hepatic – Elevations of ALT (SGPT) (1.9%), AST (SGOT) (1 7%), alkaline phosphatase (0 8%), LDH (0.4%), serum bilirubin (0.3%).

Hematologic – eosinophilia (0.6%), leukopenia (0 4%), decreased blood platelets (0.1%), elevated blood platelets (0.1%), pancytopenia (0 1%).

Renal – Elevations of Serum creatinine (1.1%), BUN (0 9%).

CRYSTALLURIA, CYLINDRURIA, AND HEMATURIA HAVE BEEN REPORTED

Other changes occurring in less than 0.1% of courses were Elevation of serum gammaglutamyl transferase, elevation of serum amylase, reduction in blood glucose, elevated uric acid, decrease in hemoglobin, anemia, bleeding diathesis, increase in blood monocytes, and leukocytosis.

### OVERDOSAGE

Information on overdosage in humans is not available In the event of acute overdosage, the stomach should be emptied by inducing vomiting or by gastric lavage The patient should be carefully observed and given supportive treatment. Adequate hydration must be maintained In the event of serious toxic reactions from overdosage, hemodialysis or peritoneal dialysis may aid in the removal of ciprofloxacin from the body, particularly if renal function is compromised

### DOSAGE AND ADMINISTRATION

The usual adult dosage for patients with urinary tract infections is 250 mg every 12 hours For patients with complicated infections caused by organisms not highly susceptible, 500 mg may be administered every 12 hours

Respiratory tract infections, skin and skin structure infections, and bone and joint infections may be treated with 500 mg every 12 hours. For more severe or complicated infections, a dosage of 750 mg may be given every 12 hours.

The recommended dosage for infectious diarrhea is 500 mg every 12 hours.

In patients with renal impairment, some modification of dosage is recommended (SEE DOSAGE AND ADMINISTRATION SECTION IN FULL PRESCRIBING INFORMATION).

### HOW SUPPLIED

Cipro® (ciprofloxacin HCl/Miles) is available as tablets of 250 mg, 500 mg, and 750 mg in bottles of 50, and in Unit-Dose packages of 100 (SEE FULL PRESCRIBING INFORMATION FOR COMPLETE INFORMATION).

---

***Due to susceptible strains of indicated pathogens.**
**See indicated organisms in Prescribing Information.**

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C09858A MLR-558

*except imminent death*, would it be permissible to withhold or discontinue artificial hydration and nutrition.

The Minnesota Citizens Concerned for Life (the MCCL) is the main sponsor of the alternative proposal. The MCCL's insistence on artificially administered hydration and nutrition, except when death is imminent, seems to be, in the opinion of many legislators, the main difference between the two polarized positions. However, the Living Will Coalition's proposal does cover a number of other important issues not contained in the MCCL proposal.

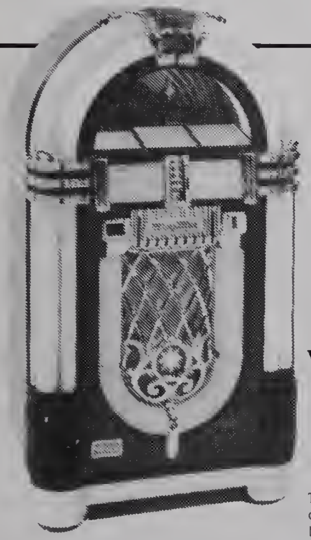
It is our unalterable position that the artificial administration of hydration and nutrition (gastrostomy, N-G tubes, and intravenous lines both peripheral and central) are medical treatment and not simply comfort measures as the MCCL contends. These modalities require a physician's order to start them, to direct what solutions are to be administered through them, and to discontinue them when appropriate. Medical treatment of this kind may be complex and subject to considerable variation, depending on the individual patient's situation. Because specific medical treatment requires the judgment of a physician, it is not appropriate to generically mandate by law that a specific treatment be used.

Unfortunately, the MCCL intentionally confuses the matter of artificially administered hydration and nutrition, which it seeks to require, by repeatedly using the terms "food and water" or "food and fluids," when they mean artificially administered hydration and nutrition, with the erroneous implication that supporters of our bill would deny to patients food and liquids by the normal mechanisms of eating and drinking. The confusion created by their misrepresentation may create the impression that physicians propose to cause death by starvation and dehydration by preventing normal oral intake.

We have repeatedly assured them that nothing in our proposal would allow us to interdict eating, drinking, or assisted oral feeding by nursing personnel. In spite of our explanations and protestations, their misrepresentations persist in their handout literature, their communications to newspapers and other media, and in their testimony before legislators.

The members of the coalition dedicated to the enactment of a proper living will bill are continuing our efforts to clarify these issues for the legislature and for the public.

The matter of the living will is of major importance to many of our patients and hence to us. I ask your assistance by talking to your own state legislator, using the points that I have tried to make, so that proper living will legislation—the Adult Health Care Act—can finally be enacted in Minnesota. ■



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# Physician Income, Expenses, and Fees: How Do You Compare?

*Steven D. Carter*

In past years, physicians have experienced competition and regulation, increasing costs, and cuts in their fees. In the near future, Congress will tackle the concept of a "relative value scale." In attempting fundamental reform on physician payment, policymakers will review numerous approaches in better understanding the fees, expenses, and income of physicians.

For physicians the comparisons are more basic. How much do I charge? What are my expenses? What is my net income?

The following comparisons illustrate trends and general comparisons. I hope the information is helpful and presents a different view of "relative value."

PHYSICIAN INCOME BY CENSUS REGION

| REGION | GROSS | NET |
|---|---|---|
| WEST | $162,590 | $110,000 |
| Rocky Mountain states | 206,730 | 97,500 |
| Far Western states | 219,640 | 113,850 |
| MIDWEST | 195,240 | 110,560 |
| Plains states (includes Minnesota) | 194,000 | 105,500 |
| Great Lakes states | 195,630 | 112,730 |
| SOUTH | 199,200 | 119,470 |
| South Atlantic states | 196,150 | 118,850 |
| Mid-southern states | 225,000 | 125,630 |
| Southwestern states | 193,750 | 115,710 |
| EAST | 186,070 | 106,740 |
| New England states | 181,000 | 106,250 |
| Mid-Eastern states | 188,890 | 107,000 |

Source: *Medical Economics*, September 7, 1987

A Comparison of Earning Among Specialists - 1986 (Median)

| Specialty | Gross (before expenses and taxes) | Net | Percent Net Change 1985-1986 |
|---|---|---|---|
| Neurosurgeons | $359,820 | $203,570 | +5.7 |
| Orthopedic surgeons | 353,980 | 182,640 | +8.2 |
| Plastic surgeons | 357,240 | 180,210 | +16.1 |
| Thoracic surgeons | 263,890 | 156,480 | +3.1 |
| Ophthalmologists | 315,630 | 148,000 | NA |
| Radiologists | 187,500 | 147,500 | -1.7 |
| OBG specialists | 271,760 | 137,780 | +13.5 |
| General surgeons | 227,080 | 122,370 | +1.3 |
| Internists | 180,750 | 95,630 | +6.7 |
| Psychiatrists | 127,940 | 86,670 | +7.8 |
| FPs | 181,140 | 86,430 | +12.9 |
| Pediatricians | 168,180 | 84,340 | +6.6 |
| GPs | 130,000 | 72,840 | +1.8 |
| All surgical specialists | 270,970 | 146,430 | +10.4 |
| All non-surgical specialists* | 171,460 | 106,460 | +12.4 |
| All MDs | 200,250 | 112,790 | NA |

*Excludes GPs and FPs

Source: *Medical Economics*, September 7, 1987

### Median Physician Expenses - 1986

| | |
|---|---|
| Office payroll[1] | $33,650 |
| Office space[2] | 12,650 |
| Malpractice insurance premiums | 8,360 |
| Drugs and medical supplies[3] | 5,630 |
| Professional car upkeep[4] | 3,980 |
| Depreciation on medical equipment | 3,510 |
| Continuing education[5] | |

[1] Includes salaries, bonuses, and retirement-plan contributions, if any, for non-physician employees only.
[2] Rent or mortgage payment.
[3] Includes non-depreciable small instruments.
[4] Includes depreciation.
[5] Includes registration fees, cost of materials and travel, meals and lodging for doctor only.

Source: *Medical Economics*, November 9, 1987

### PRACTICE EXPENSES BY SPECIALTY - 1986

| Specialty | Median | As percent of gross |
|---|---|---|
| FPs | $87,100 | 48.1% |
| General surgeons | 78,000 | 38.1 |
| Internists | 72,140 | 42.5 |
| Neurosurgeons | 112,500 | 32.6 |
| OBG specialists | 114,670 | 45.5 |
| Ophthalmologists | 120,310 | 41.5 |
| Orthopedists | 136,860 | 42.9 |
| Pediatricians | 73,140 | 44.4 |
| Plastic surgeons | 138,410 | 41.1 |
| Psychiatrists | 30,000 | 23.3 |
| Radiologists | 18,000 | 12.2 |
| Thoracic surgeons | 76,430 | 31.9 |
| All surgical specialists | 97,440 | 38.3 |
| All non-surgical specialists[1] | 56,810 | 35.9 |
| All MDs | 72,410 | 38.1 |

[1] Excludes FPs and GPs.

Source: *Medical Economics*, November 9, 1987

### Fees - First Office Visits

| | East | South | Midwest | West | Nationwide |
|---|---|---|---|---|---|
| FPs | —[1] | $29 | $26 | $36 | $29 |
| GPs | $30 | 27 | 26 | 36 | 30 |
| Internists | 46 | 45 | 36 | 51 | 44 |
| OBG specialists | 61 | 51 | 41 | 61 | 51 |
| Pediatricians | 35 | 31 | 30 | | 33 |
| General surgeons | 40 | 35 | 30 | 45 | 35 |
| Neurosurgeons | —[1] | 91 | 76 | 126 | 99 |
| Orthopedic surgeons | 51 | 40 | 40 | 51 | 45 |
| Plastic surgeons | 55 | 36 | 35 | 44 | 40 |
| Thoracic surgeons | —[1] | 51 | 50 | —[1] | 57 |
| All surgical specialists | 51 | 41 | 40 | 54 | 46 |
| All non-surgical specialists[2] | 46 | 41 | 36 | 51 | 45 |

### FEES - Office Revisits

| | East | South | Midwest | West | Nationwide |
|---|---|---|---|---|---|
| FPs | —[1] | $23 | $22 | $30 | $24 |
| GPs | $25 | 22 | 21 | 30 | 24 |
| Internists | 31 | 28 | 26 | 35 | 30 |
| OBG specialists | 40 | 30 | 26 | 36 | 31 |
| Pediatricians | 27 | 25 | 24 | 30 | 26 |
| General surgeons | 26 | 25 | 21 | 29 | 25 |
| Neurosurgeons | —[1] | 35 | 26 | 36 | 35 |
| Orthopedic surgeons | 31 | 26 | 25 | 31 | 26 |
| Plastic surgeons | —[1] | 25 | —[1] | 26 | 26 |
| Thoracic surgeons | —[1] | 26 | 25 | —[1] | 26 |
| All surgical specialists | 31 | 26 | 25 | 31 | 27 |
| All non-surgical specialists[2] | 31 | 28 | 26 | 34 | 30 |

[1] Insufficient sample.
[2] Excludes FPs and GPs.

Source: *Medical Economics*, October 5, 1987

## MISCELLANEOUS INFORMATION

►Average professional liability insurance premiums climbed to $12,800 in 1986 from $10,500 in 1985. There has been a cumulative 121% increase in premiums (an average annual rate of 24%) in the past five years. As a consequence they comprised 11% of total professional expenses in 1986 vs. only 7% in 1985.

Source: *1987 Edition of AMA's Socioeconomic Characteristics of Medical Practice.*

►Working longer hours played a more significant role than fee increases in the rising income. The average physician spent 52.2 hours a week in patient care activities in 1986.

►1980 was the third successive year—and the last to date—in which physicians' fees rose less than the overall costs of living. Since then, medical-fee boosts have been decelerating, but not nearly as fast as the cost of all items—or even all services.

Source: *Medical Economics*, March 3, 1986.

►After holding the line in 1986, the typical office-based M.D. has hiked his or her office-revisit fee $1—and the upper limit of the normal range has risen again, from $30 to $34.

Source: *Medical Economics*, October 5, 1987.

►FPs, who raised their median fee for the first day of hospital care by $5 in 1986, held the line in 1987. GPs and internists raised their charges by $9 and $7, respectively, following hikes of $4 and $3 in 1986. Median daily charges for follow-up care were up $3 among FPs and GPs, after increases of $2 and $1, respectively, in 1986—and also among internists, whose fee for this service didn't go up at all in 1986. Pediatricians, whose charge for follow-up care rose $4 in 1986, posted no further increase in 1987.

Source: *Medical Economics*, October 5, 1987.

►The consumer price index (CPI) for physicians' services increased 7.7 percent during 1987. During the same period the CPI for all services increased only five percent.

Source: U.S. Bureau of Labor Statistics ■

### Median Fees for Various Services - 1987

| **Service** | **FPs** | **GPs** | **Internists** | **Pediatricians** | **OBGs** | **General Surgeons** |
|---|---|---|---|---|---|---|
| Hospital visit-initial[1] | $76 | $76 | $100 | | | |
| Hospital visit-follow-up[2] | 30 | 26 | 34 | $31 | | |
| Complete history and physical exam | 62 | 51 | 89 | | | |
| Complete, routine OB care | 800 | 750 | | | $1,201 | |
| Total hysterectomy | | | | | 1,421 | $1,169 |

[1] With comprehensive diagnostic history and physical exam.

[2] Examination and evaluation, usual or routine, per day.

Source: *Medical Economics*, October 5, 1987

### Practice Expenses by Type of Community

| **Median professional expenses** | **in $** | **As % of gross** |
|---|---|---|
| Urban | $69,550 | 36.8% |
| Suburban | 77,650 | 38.3 |
| Rural | 72,920 | 44.5 |

Source: *Medical Economics*, November 9, 1987

# NEWS CLIPS

## CANCER DETECTION CENTER DIRECTOR

Dr. Donald E. Stewart became the new director of the Cancer Detection Center at the University of Minnesota on July 1, 1988. He succeeds Dr. Victor Gilbertsen.

Stewart, a longtime member of the Surgery Department's clinical faculty, was in private practice at Northwestern Clinic in Crookston for over 30 years. He has served on various national committees of the American Cancer Society and won numerous awards. He earned an M.S. degree in surgery, as well as M.D., M.B., and B.S. degrees, at the University.

## 32% OF HOSPITALS REPORTED LOSS IN 1987

Almost one-third of Minnesota's hospitals reported net losses in 1987, the Minnesota Hospital Association said.

Of 159 hospitals surveyed, 51 facilities lost money last year, the highest number of money-losers in 10 years. About 40 percent of the money-losing facilities had fewer than 50 beds.

Twenty hospitals reported a negative cash flow in 1987, and five hospitals closed, the MHA said.

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Source: *Modern Healthcare*, September 16, 1988

## FAIRVIEW BOARD

Four members have been elected to the board of directors of Fairview Hospital and Healthcare Services. They are E. Duane Engstrom, M.D., Kenneth "Chip" Glaser, Edward Lindell and John E. McMahon, M.D.

Engstrom is a practicing physician with Family Physicians, P.A. He is former president and chairman of the board of Hennepin County Medical Society.

Glaser, a real estate developer, is president of American Conecepts, Inc., Opportunity Capital, Inc., and K. Charles Development Corp.

Lindell is the senior vice president of Lutheran Brotherhood and a former president of Gustavus Adolphus College.

McMahon is an orthopedic surgeon and is president and chairman of Orthopaedic Consultants, P.A.

## COSTLY CARE FOR HIV BABIES

Children infected with the AIDS-causing human immunodeficiency virus (HIV) are running up steep hospital bills, their care made especially expensive by the severity of their illness and social costs associated with their cases, a study in the October 7, 1988, *Journal of the American Medical Association* reported.

The report, by James D. Hegarty, M.P.H., and colleagues at the Harlem Hospital Center, New York City, found hospital care for 37 HIV-infected children treated at that institution from 1981 through 1986 cost a total of nearly $3.4 million. Lifetime care averaged $90,347 per child, with one-third of total inpatient days and 20 percent of costs resulting from social rather than medical factors.

## AND IS IT NECESSARY?

A related study in the same October 7 *JAMA* issue suggested a significant proportion of the inpatient care for HIV-positive children appears to be medically unnecessary, and the cost of this care could be reduced substantially by improved medical and social services.

This second study, by Kathi Kemper, M.D., M.P.H., now of the University of Washington and Harborview Medical Center, Seattle, and Brian Forsyth, M.B., Ch.B., of the Yale University School of Medicine, New Haven, Connecticut, analyzed hospital use by 34 HIV-positive children seen at Yale-New Haven Hospital from 1983 through October 1987. Overall, 54 percent of the children's inpatient stays were judged medically unnecessary, based on a standardized appropriateness evaluation protocol.

This rate of unnecessary hospitalization declined from 64 percent of all hospital days in 1983 and 1984 to 30 percent in 1987 "as a result of improved outpatient services and access to foster care," the authors reported. Still, they noted, the rate is higher than the 18 to 25 percent in general pediatric patients in New England and the 20 percent reported at a large Midwestern university hospital.

## HETEROSEXUAL HIV INFECTION

AIDS is not sweeping through the U.S. heterosexual population, but reported cases of AIDS spread through heterosexual contact have kept pace with infection rates among other risk groups, said a report in the October 7, 1988, *Journal of the American Medical Association*. Intravenous drug use is cited as a key factor.

"Although AIDS is not 'exploding' into the heterosexual population relative to other risk groups," wrote authors Harry W. Haverkos, M.D., of the National Institute on Drug Abuse, Rockville, Maryland, and Robert Edelman, M.D., of the National Institute of Allergy and Infectious Diseases, Bethesda, Maryland, "the increase in the number of heterosexual cases is proportional to increases in other risk groups."

Fifty-two percent of all heterosexual AIDS cases reported since 1981 were diagnosed and reported between January 1, 1987, and April 1988, the authors said. "Similarly, 51 percent of all AIDS cases reported in the United States since 1981 have been reported during the same period, suggesting that the proportion of heterosexual cases has not increased relative to other risk groups."

## INCOME DECLINE FOR UNITED HEALTHCARE

United HealthCare of Minneapolis reported a 53.6 percent income loss for the second quarter of 1988, ending June 30. Although United posted income gains of 20 to 25 percent early in the year, its six-month income decline was 17.4 percent for the period ending June 30. United HealthCare owns and manages health maintenance organizations.

## RADIOLOGY HONORS

Kurt Amplatz, M.D., professor of radiology at the University of Minnesota, received one of three gold medals awarded by the American College of Radiology (ACR) at its annual meeting in September. Gold medals are given, according to the ACR, "to an individual for distinguished and extraordinary service to the ACR or to the field of radiology."

Also at its annual meeting, the ACR bestowed fellowship degrees to John D. Earle, M.D., of Rochester, and Joseph Francis Eckert, M.D., of Mankato. The ACR awarded 136 fellowships for significant scientific or clinical research in the field of radiology, or significant contributions to its literature. Criteria for selection also include performance of outstanding service as a teacher of radiology, service to organized medicine, and an outstanding reputation among colleagues and local community as a result of long-term superior service.

## SEVERITY OF ILLNESS STUDY

Colorado's Health Data Commission is attempting to advance beyond its current role in gathering and publishing hospital data.

The commission, formed by the state Legislature in 1985, is planning to collect uniform clinical data from all state hospitals with more than 100 beds to determine severity-adjusted outcome rates. The study will determine relationships between the severity of illness at a patient's admission and the outcome of care, according to Joan C. Offutt, executive director of the data commission.

The commission is seeking $120,000 from the Health Care Financing Administration for the two-year project, which aims to design a system of analysis for inpatient care that will develop rates by which a hospital's outcome performance can be assessed.

Pennsylvania is the only other state in the nation to require hospitals to submit severity-of-illness information, Offutt said.

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Source: *Modern Healthcare*, August 26, 1988

## MAYO MED SCHOOL AWARD

In recognition of his exceptional, continuing contributions to undergraduate medical education, Robert F. Avant, M.D., has been awarded one of the school's Faculty Service Awards for 1988.

Dr. Avant, who is a Parker D. and Isabella G. Sanders Professor of Primary Care at Mayo Medical School, has served on the faculty of Mayo Medical School since 1977. He is also chairman of the Department of Family Medicine at Mayo Clinic and was recently elected president of the American Board of Family Practice.

## HMOS WITH MEDICARE CONTRACTS

A September report has found that health maintenance organizations (HMOs) with Medicare contracts are typically more flexible than the traditional Medicare fee-for-service system in providing health care benefits. Under Medicare contracts, participating HMOs are required to provide all home health care services covered by Medicare. Beyond these minimum requirements, the plans have substantial leeway in offering expanded benefits. Many HMOs take advantage of this opportunity when home care can reduce the use and cost of inpatient hospitalizations. A third of the HMOs surveyed for this study reported that they provide home health services that are not covered under Medicare. In addition, the vast majority of the HMOs removed Medicare limitations on number of visits, copayments, and other eligibility restrictions.

This does not suggest that the provision of home health care through HMOs is without problems. According to home health agency representatives, the down side of HMO flexibility is that benefits are too often ill-defined and inconsistently applied. This problem is compounded by the fact that many HMOs and home health care providers find it difficult to get timely and definitive direction from the Health Care Financing Administration in interpreting the regulations.

The report was conducted by InterStudy and funded by the National Center for Health Services Research and Technology Assessment.

## MEDCENTERS CHAIRMAN

Joseph J. Dillenburg has been elected chairman of the MedCenters Health Plan Board of Directors as of June 17, 1988. Dillenburg has served on the MedCenters Health Plan executive committee since 1986. He replaces Brad McKane, who had served on the Board of Directors since May 1987 and as chairman since January 1988.

Dillenburg currently is a management consultant to Partners Medical Management Ltd., of Minneapolis. He served 21 years as the chief administrator for Affiliated Medical Centers, a Willmar-based firm that manages a network of more than 70 physicians in 10 multispecialty clinics serving southwestern Minnesota.

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# CME IN MINNESOTA

### Provided through the MMA Medical Education Subcommittee on CME Resources

For assistance with scheduling meetings or for information on future medical meetings and CME courses at the state and national level, please contact the MMA office: 2221 University Avenue SE, Suite 400, Minneapolis, Minnesota 55414; (612) 378-1875. Information for each entry is arranged by date; name of program; primary sponsor; location; contact person.

## DECEMBER 1988

1-3 **Annual Cardiopulmonary Medicine Course** St. Paul-Ramsey Medical Center; Holiday Inn East, I-94 and McKnight Road, St. Paul, Minnesota. CONTACT: Bonnie Young, St. Paul-Ramsey Medical Center, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

2 **Pyelogram Conference** L'Hotel Sofitel, Minneapolis, Minnesota; Minnesota Urological Society. CONTACT: Linda Reynolds, Executive Secretary, Minnesota Urological Society, 5601 West 78th Street, Bloomington, Minnesota 55435; (612) 925-0533.

5-7 **Partners in Managing Type II Diabetes** International Diabetes Center; International Diabetes Center, Park Nicollet Medical Foundation, Minneapolis, Minnesota. CONTACT: Lucy Mullen, R.N., B.S., Assistant Director of Education, Park Nicollet Medical Foundation, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3393.

12-16 **Team Management of Diabetes Mellitus** International Diabetes Center; International Diabetes Center, Park Nicollet Medical Foundation, Minneapolis, Minnesota. CONTACT: Lucy Mullen, R.N., B.S., Assistant Director of Education, Park Nicollet Medical Foundation, 5000 West 39th Street, Minneapolis, Minnesota 55416; (612) 927-3393.

20 **Physical Medicine & Rehabilitation** Mesabi Regional Medical Center; Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746. CONTACT: Diane Antonovich, Mesabi Regional Medical Center, 750 East 34th Street, Hibbing, Minnesota 55746; (218) 262-4881, ext. 259.

## JANUARY 1989

12-14 **Medical Directors Training Program—3-Part Series** Riverwood Conference Center, University of Minnesota, Continuing Medical Education Office. CONTACT: Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55414; (612) 626-5525.

13-14 **Second Annual OB/GYN Winter Conference** Hennepin County Medical Center/Hennepin Faculty Association; Radisson Plaza Hotel, Minneapolis, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

20 **Pyelogram Conference** L'Hotel Sofitel, Minneapolis, Minnesota; Minnesota Urological Society. CONTACT: Linda Reynolds, Executive Secretary, Minnesota Urological Society, 5601 West 78th Street, Bloomington, Minnesota 55435; (612) 925-0533.

20-21 **Cardiology Update** Abbott Northwestern Hospital, Radisson Arrowwood Inn and Resort, Alexandria, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

20-21 **Vascular Laser Surgery: "A Hands-on" Training Program** Abbott Northwestern Hospital, Abbott Northwestern Hospital, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

## FEBRUARY 1989

5-12 **West Indies and the Panama Canal Travel Medical Seminar Program** North Central Medical Conference. CONTACT: North Central Medical Conference, 1845 Hampshire Avenue, Suite 200, St. Paul, Minnesota 55116.

10 **Burn Care Update** St. Paul Ramsey Medical Center; Continuing Medical Edication. CONTACT: Bonnie Young, 640 Jackson Street, St. Paul, Minnesota 55101; (612) 221-3977.

10-11 **Gastrointestinal Laser Surgery** Abbott Northwestern Hospital; Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

17 **Pyelogram Conference** L'Hotel Sofitel, Minneapolis, Minnesota; Minnesota Urological Society. CONTACT: Linda Reynolds, Executive Secretary, Minnesota Urological Society, 5601 West 78th Street, Bloomington, Minnesota 55435; (612) 925-0533.

20-24 **Practical Problems in Primary Care Medicine** Hotel Sanur Beach, Bali, Indonesia, University of Minnesota Office of CME. CONTACT: Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55414; (612) 626-5525.

22-23 **Geriatric Drug Therapy Symposium** Radisson University Hotel; Minneapolis, Minnesota, University of Minnesota Office of CME. CONTACT: Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55414; (612) 626-5525.

22-25 **Thoracic Organ Transplantation** Abbott Northwestern Hospital, Westin La Paloma, Tucson, Arizona. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

23-24 **Primary Care of CNS Disease Trauma Conference** Hennepin County Medical Center/Hennepin Faculty Associates/St. Paul-Ramsey Medical Center; Holiday Inn Town Square, St. Paul, Minnesota. CONTACT: Eugenia C. Kassar, Office of Academic Affairs, 701 Park Avenue, Suite 4220, (AdaBec #834) Minneapolis, Minnesota 55415; (612) 347-2075.

24-25 **Preventing Acute Myocardial Infarction** University of Minnesota; Office of CME. CONTACT: Office of CME, Box 202 UMHC, 420 Delaware Street SE, Minneapolis, Minnesota 55414; (612) 626-5525.

24-25 **General Laser Surgery: "A Hands-on" Training Program** Abbott Northwestern Hospital, Abbott Northwestern Hospital, Minneapolis, Minnesota. CONTACT: Tim Schuh, CME Office, Abbott Northwestern Hospital, 800 East 28th Street, Minneapolis, Minnesota 55407; (612) 863-5461.

24-Mar 11 **South American Adventure Travel Medical Seminar Program** North Central Medical Conference. CONTACT: North Central Medical Conference, 1845 Hampshire Avenue, Suite 200, St. Paul, Minnesota 55116.

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**Family Physician/Emergency Room:** Full-time salary working weekends, primarily emergency room. Flexibility available. Falls Medical Center, PA, 105 Shorewood Drive, International Falls, Minnesota 56649. Please contact: A. Johnson, M.D., or A. Marc Gorden, M.D., at (218) 283-9431 for more information. (R)

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**Minneapolis Suburban Pediatric Group** has opportunity for board-certified or eligible pediatrician. Busy, diverse practice with good compensation and fringe benefit package. Contact: Gene Inett, Administrator, Metropolitan Pediatric Specialists, P.A., 416 Southdale Medical Building, Edina, Minnesota 55435; (612) 920-9191. 3-12/88

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Contact: John L. Weir, Associate Administrator, Dakota Clinic, Ltd., Box 6001, 1702 South University Drive, Fargo, North Dakota 58108; or call (701) 280-3381. *3-12/88

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**Female Internist or Gynecologist Wanted:** Must be board certified. To join female gynecologist, male cardiologist, and male internist. Competitive salary, future partnership a definite possibility. Send resume to Summit Medical Group, P.C., 2800 Spring Arbor Road, Jackson, Michigan 49203; (517) 783-2691. *4-1/89

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**BE/BC Internal Medicine & Psychiatrist:** Excellent opportunity to join a well-established, progressive, 15-physician multispecialty group (7 FP, 4 IM, 1 OB/GYN, 1 DERM) located in an economically sound community of 19,000 (drawing area of 30,000), 65 miles south of Twin Cities. Full membership after one year. One FP retiring in 1987. Competitive salary and fringe benefit package. Contact: Pat Greenwood, M.D., or Terry Tone, Administrator, 134 Southview, Owatonna, Minnesota 55060; (507) 451-1120. (R)

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**Positions Available—Neurology:** SEI Health Services is seeking two adult neurologists and one pediatric neurologist for a large neurological group in the southeastern United States. Recruiting board-eligible or board-certified physicians. Competitive salary and comprehensive benefit package that includes malpractice insurance and relocation assistance. Clinical experience in EEG, EMG, envoked response, doppler ultrasound, and sleep disorders preferred. Send resume to: SEI Health Services Division, James Hacker, General Manager, 7725 Little Avenue, Charlotte, North Carolina 28226; or call: (704) 542-7100. 3-2/89

**Nevada:** Family practice, internal medicine, pediatrics, OB/GYN, radiology: Immediate openings in several rural communities, guaranteed salary, full benefits including paid malpractice, and possible university affiliation. No fee to applicant. Contact: Sherry Semiatin, Office of Rural Health, Reno, Nevada 89557-0046; (702) 784-4841. *1-12/88

**HealthWorks Northwest Occupational Medicine Center** is seeking two (2) physicians for its staff. Appointments are scheduled for January 1989 and July 1989. BE or BC desirable. Physicians (family practice and emergency medicine) with an interest in occupational medicine are also invited to apply. Please send curriculum vitae to: Scott Lindblom, Physician Recruiter, Fairview Physician and Clinic Services, 2312 South Sixth Street, Minneapolis, Minnesota 55454; or call: (612) 371-6235. 3-2/89

**Pediatrics:** Marshfield Clinic, a 270-physician, multispecialty private group practice, is seeking a board-certified or eligible general pediatrician to join its expanding regional center in Chippewa Falls. Chippewa Falls is a community of 15,000 people located in beautiful west central Wisconsin with a wide range of recreational, educational, and cultural opportunities easily accessible. The clinic is adjacent to a 110-bed JCAH-accredited hospital. Competitive salary and fringe benefit package. Send curriculum vitae and references to: Mr. David Draves, Director, Regional Development, Marshfield Clinic, 1000 North Oak Avenue, Marshfield, Wisconsin 54449; Or you may call collect at (715) 387-5376. *1-12/88

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**Minneapolis:** Multiple opportunities available for obstetricians at Riverside Medical Center. Option to work with midwives and be active in a teaching program for OB/GYN and family practice residents. Competitive salary and benefit package. Send curriculum vitae to: Scott M. Lindblom, Physician Recruiter, Fairview Physician and Clinic Services, 2312 South Sixth Street, Minneapolis, Minnesota 55454; or call (612) 371-6235. 2-1/89

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**13th Annual Winter Pediatric Seminar:** February 9 & 10, 1989. Location: Big Powderhorn Mountain Ski Resort, Bessemer, Michigan. Further Information: Marshfield Clinic Medical Education Office, 1000 North Oak Avenue, Marshfield, Wisconsin 54449; (715) 387-9207. 2-1/89

**Telemark Cancer Conference:** January 25, 26 & 27, 1989. Location: Telemark Lodge, Cable, Wisconsin. Further Information: Marshfield Clinic Medical Education Office, 1000 North Oak Avenue, Marshfield, Wisconsin 54449; (715) 387-5207. 2-1/89

**Pediatrician:** Ramsey Clinic, a University-affiliated multispecialty group practice located in St. Paul, Minnesota, is seeking a pediatrician to join our 215-physician group. We would prefer hiring a pediatrician with a subspecialty in such areas as allergy, gastroenterology, nephrology, etc. Board eligibility or board certification also preferred. The chosen candidate will provide clinical services on inpatient units and in a large-volume ambulatory clinic with an opportunity to develop a subspecialty practice. The candidate will participate in teaching and education activities. The opportunity and funding for clinical research is available. Successful candidates will be considered for academic appointment at the University of Minnesota. Salary commensurate with experience, and excellent fringe benefits are offered as a part of these opportunities. For further information and confidential consideration, send your curriculum vitae in confidence to: Robert L. Kriel, M.D., Acting Chair, Department of Pediatrics, Ramsey Clinic, Jackson at University, St. Paul, Minnesota 55101. EOE. *1-12/88

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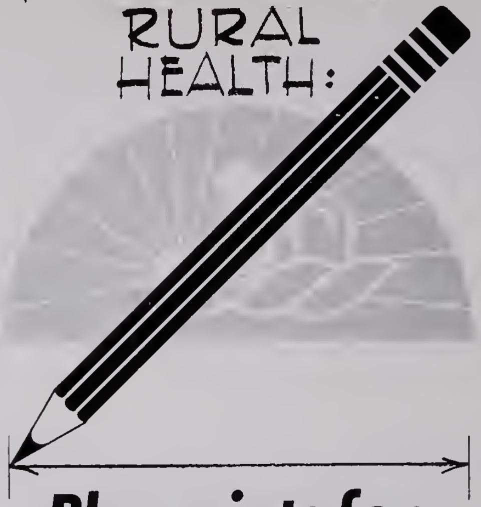

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